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ABSTRACT

This compilation of research in agricultural education presents abstracts of 76 studies completed during 1971-72 in 12 of the states of the Central Region. The abstracts are arranged alphabetically by author and indexed by subject. A list of studies in progress in 1971-73 is also included. Abstracts of research completed in 1971-72 were reported by teacher education institutions and state departments of education in the region. All studies reported are available for loan. (MF)

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SUMMARIES OF STUDIES IN AGRICULTURAL EDUCATION

CENTRAL REGION

1971-72

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INTRODUCTION

This compilation of research in agricultural education includes abstracts of 76 studies completed during 1971-72 in 12 of the 13 states of the Central Region. This compares with 83 studies reported last year, 103 the year before, 82 in 1969, 66 in 1968, and 55 in 1967. They are arranged alphabetically by author and indexed by subject. A list of studies in progress in 1972-73 is also included.

Abstracts of research completed in 1971-72 were reported by teacher education institutions and state departments of education in the region. All studies reported are available for loan from university libraries, departments of agricultural education in universities, and state departments of vocational and technical education.

This compilation of abstracts of research in agricultural education is an activity of the Research Committee of the Agricultural Education Division of the American Vocational Association.

Hollie B. Thomas
Central Regional Representative
Research Committee
Agricultural Education Division
American Vocational Association

December, 1972

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SUMMARIES OF STUDIES, 1971-72

1. ADAMS, Richard Neil, Continuing Education for Technical College Graduates. Dissertation, Ph.D., 1972. Library, The Ohio State University, Columbus.

Purpose. To determine the need for a program of continuing education geared toward updating of graduates of the Clark Technical College (Springfield, Ohio) and to identify the characteristics of a viable program to meet their needs.

Method. The study was based on data secured by utilizing an interview schedule administered to a randomly selected sample of graduates of the Clark Technical College residing within twenty-five miles of the college. Demographic and academic data were obtained from the graduates' permanent records filed in the student services office of the college. Additional data were secured from selected employers of the graduates with the use of an interview schedule. The employers interviewed were the immediate supervisors of the Clark Technical College graduates interviewed.

Findings. Many of the graduates have adequate access to new knowledge, but there is a number of graduates who need continuing education or would like to improve their accessibility to new knowledge. There are graduates who need a program of continuing education available to maintain their contemporary technical knowledge and to receive consideration for a promotion. The employers of the graduates perceive a need for the college to develop a program of continuing education even though most of the continuing education being currently utilized by the graduates is provided by the employers.

Programs of continuing education are needed in the newest technological developments and in managerial practices. A baccalaureate degree does not appear to be necessary for employers to consider the promotion of graduates. Graduates will drive to campus for courses. Classes meeting two times per week at night during the winter quarter would be most popular with graduates. Courses should be offered that are structured around technical content utilizing group discussion and demonstrations within the framework of a regular course. Credit for courses is an important consideration to the graduates and the employers.

2. ALGRIM, Eugene Ernest, Competencies Which Are Important for Employment in Agricultural Chemical Dealerships and In Production Agriculture. Master's Report, M.S., 1972. Library, Kansas State University, Manhattan.

Purpose. The purpose of this study was to determine the level of competencies required in agricultural chemicals for employment in the agricultural chemical industry and in farming. These competencies which were rated very important and important by the chemical dealers and farmers were to be included in the vocational agricultural curriculum at Claflin High School

Method. Those who received the questionnaire were asked to respond by rating each competency either essential, very important, important, or little or no importance. A weighted average of the ten chemical dealers and the twelve farmers was determined by giving essential, four points; very important, three points; important, two points; and little or no importance, one point. A total sum average was obtained by adding the weighted averaged of each competency for the chemical dealers and farmers and dividing by two.

Findings. Of the thirty eight competencies in the questionnaire, the ability to "operate, calibrate, and maintain fertilizer equipment" with a sum average of 3.25 and "apply fertilizer to the soil properly and accurately" with a sum average of 3.4 were the two competencies rated the highest in the study. Other abilities which rated very important were: take an accurate soil sample; know what is involved in "fixed cost" and what increased fertilizer (variable cost) will mean in additional yields and profit; interpret a soil test report; compute the ratio to use in a fertilizer-herbicides.

The understanding competencies required in agricultural chemicals which were rated very important were: characteristics of different fertilizer materials before and after they are incorporated in the soil; physical and chemical properties of the soil in relation to plant growth and potential yield; timeliness of operation in relation to crop yield; effect of weather on plant food utilization; fertilizer needs for various levels of production; and weed chemicals and their characteristics. Although there was no difference between the level of understanding between the chemical dealers and farmers, there was a higher degree of ability required in the agricultural chemical business than in farming.

There were thirty eight competencies included in the questionnaire. Eighteen of the thirty eight competencies were understandings of which six were considered very important and eleven were considered important. Ability competencies composed the remaining twenty competencies of which nine were rated as very important and ten were rated important. There were two competencies in the questionnaire which had a little importance rating. These competencies were "micronutrients and their effect on crops in this area" and "develop a fertilizer promotion and marketing program."

3. ANDERSON, Robert Lee, Curricula and the Coordinator's Role in Post High School Agricultural Mechanics Technical Training Programs. Thesis, Ph.D., 1971. Library, Michigan State University, East Lansing.

Purposes. The purposes of this study were: (1) to assess the importance of role activities as perceived by coordinators so that important activities will be included as a part of their professional educational activities; (2) to summarize opinions from coordinators so that practices selected could be implemented in program planning and evaluation; (3) to study curricula of existing agricultural mechanics technical training programs to determine if they provide for the activities and practices rated high by coordinators.

Method. The curricula of three types of training institutions were compared by determining the percentage of credit hours classified as: (1) general, (2) sales related, (3) product related, (4) service related. Teacher role activities, characteristics of quality programs, and additional concepts for in-service training of coordinators were analyzed by means of responses on a questionnaire/opinionnaire. The role activities were selected from four functions for coordination of programs. The respondents expressed their perceptions of importance of role activities on a five-point scale. The nonparametric chi-square statistic was used as a test to determine coordinator homogeneity. The mean scores for items in Part II, III and IV of the questionnaire/opinionnaire were used to determine preferred characteristics and segments of programs and underlying educational concepts.

Findings and Interpretations. The findings that are concluded are based on the analysis of the coordinator responses to the role activities, conditions for quality programs and educational concepts. The findings of the study were analyzed within the framework of the aforementioned purposes.

1. Coordinators identified role activities as being very important. The very important activities in teaching were: In the collection and use of materials, models and specimens; in program evaluation procurement of strengths and weaknesses as seen by employers and students; in planning the involvement of industry personnel to help organize the curriculum; in student service, counseling and record keeping; and in-service contacts with industry and professional educators.

2. Conditions for quality programs included: supervised work experience in equipment dealerships' businesses of three months in length after a year of instruction was preferred over simulated work in the laboratory. Criteria for student selection and flexibility in training programs were considered desirable components of quality programs.

3. Colleges and universities emphasized general courses more than did community/junior colleges and vocational/technical institutes. Sales related courses in each type of institution received the least emphasis. The differences in programs in the three types of institutions did not cause coordinators to give statistically different responses.

It was concluded that some degree of difference of responses within a given type of institution was found and was considered desirable and essential in providing for programs capable of innovating changes to serve better the rapidly growing industry.

4. BAFFOUR-SENKYIRE, Joseph K., The Magnitude of the Incidence of Kwashiorkor (protein-calorie malnutrition) and the Development of Educational Programs to Decrease its Occurence in Ashanti Region of Ghana. Dissertation, Ph.D., 1971. Library, Purdue University, West Lafayette, Indiana.

Purpose. To determine the magnitude of the incidence of Kwashiorkor, the rate of mortality, the state of nutrition and the socio-economic background of the pre-school children 1-5 years of age in the Ashanti Region of Ghana.

Method. The survey method with a questionnaire was used as an instrument. Biographical information was collected. Reliance was on clinic admissions, discharges and deaths. They gave good indications of the proportion of death rate by the existence of high mortality. The most valuable information was the author's own field studies. A representative sample was used. Educational programs in nutrition were the treatments used as the case studies were conducted.

Findings. The study suggests that the protein-calorie malnutrition (Kwashiorkor) was widespread in Ashanti Region of Ghana with an average mortality rate of 56%. The agregate number sampled was 6440. Factors responsible for high mortality rate especially in 2 year olds were environmental and socially orientated. Poverty, ignorance, illiteracy, lack of medical facilities, and traditional fragmentary farms were definite contributors to high mortality rate.

The information resulting from this study may have special value for organizing a more effective educational program for the parents in relation to the care and feeding of children.

Availability. The dissertation is available from the Purdue University Library, West Lafayette, Indiana directly as well as through interlibrary loan. It is also available from University Microfilms.

5. BAKKEN, David Richard. Attitudes of Minnesota Vocational Agriculture Instructors and Superintendents of Schools with Vocational Agriculture Departments Toward the Employment of Agricultural Teacher Aides. Colloquium Paper, M.S., 1972. North Dakota State University, Fargo.

Purpose. To examine the employment possibilities for agriculturally trained teacher aides in Minnesota vocational agriculture departments and determine the attitudes of Minnesota vocational agriculture instructors and superintendents of schools towards the duties, employment justification and educational background of agricultural teacher aides.

Method. The writer mailed a questionnaire to a vocational agriculture instructor in each of Minnesota's 262 vocational agriculture departments and each of the 257 superintendents of schools with vocational agriculture departments. The attitudes of the vocational agriculture instructors towards duties, employment justification and educational background of agricultural teacher aides were compared to those of the superintendents by means and chi square scores. The superintendents were also asked to respond to questions concerning the present use and salaries of teacher aides as well as the possible future use, salaries, needed salary reimbursement and liability limitations of agricultural teacher aides.

Findings and Interpretations. The vocational agriculture instructors were stronger in their agreement that agricultural teacher aides could share duties in the vocational agriculture departments. The superintendents especially disagreed that teacher aides could perform duties requiring student contact or farm management and state report completion responsibilities. The vocational agriculture instructors were also stronger in their agreement that agricultural teacher aides could add to the effectiveness of vocational agriculture departments. Both groups substantially agreed that such teachers' aides should receive agricultural training in a technical college or vocational school.

It was found that teacher aides were used extensively in areas other than vocational agriculture. Fifty-eight superintendents indicated an interest in employing agricultural teacher aides if salary could be placed and reimbursed at suitable levels. Fifty per cent reimbursement at 200 to 400 dollars per month was the most commonly selected salary condition noted. Nine months was the most commonly indicated term of yearly employment for agricultural teacher aides.

At these salary levels it appears doubtful that suitable agricultural teacher aides could be secured.

6. BEASLEY, Gary Fred, An Assessment of an Instructional Unit For Preparing Users of the Educational Resources Information Center (ERIC) System. Dissertation, Ph.D., 1972. Library, The Ohio State University, Columbus.

Purpose. As a part of the development and evaluation of an instructional unit for preparing users of the ERIC system, this study sought to assess the instructional outcomes achieved through using a preliminary version of the instructional unit.

Method. The modules of the unit covered instruction on: (1) An Introduction to the ERIC system, (2) Abstracts of Research and Abstracts of Instructional Materials on Vocational and Technical Education, (3) Research In Education, (4) Current Index to Journals in Education, and (5) Thesaurus of ERIC Descriptors. The unit was used with 20 participants in a research utilization training program in Portland, Oregon in December, 1971. A pretest-post-test design was used to measure gain scores of the instructional unit while criterion-referenced measures assessed the extent to which the participants achieved performance objectives of the individual modules of the unit.

Findings. Comparison of pretest and post-test scores revealed a significant gain at the .05 level. The participants achieved 31 of 42 performance standards for the individual modules, but considerable revision of the instructional unit is needed before national distribution is made.

Conclusions and recommendations call for modifying the instructional unit by altering the modular format to focus more on retrieval strategies, providing more hands-on experiences with the information retrieval indexes, and improving the visual aids. A more flexible structure would be desirable so that the unit could be used for individual study as well as group study to accomodate special requirements and varying time constraints. As the unit is revised and further developed, attention should be focused on evaluating the unit with other user groups and in various training situations. Since a change in the organizational format of the instructional unit is recommended, new instruments for evaluation should be developed to conform to this format change. In addition, the ERIC resources, particularly RIE, CIJE, AIM, and ARM, should be reviewed for possible improvements in the organizational format. Each of these indexes should be assessed in terms of their effectiveness and ease of use to facilitate user needs.

7. BENDER, Ralph E., The 1972 Occupations of Recent Graduates of Vocational Agriculture in Ohio. Staff Study, 1972. Department of Agricultural Education, The Ohio State University, Columbus.

Purpose. To identify the occupations as of March 1972 of graduates of vocational agriculture in Ohio who have been out of school one to five years.

Method. The survey included 1,332 students of 79 departments selected at random from the 14 supervisory districts of vocational agriculture in Ohio. This survey is the continuation of similar studies conducted in previous years.

Findings. Sixty-five percent of the graduates of vocational agriculture out of school one year were in farming and farm-related occupations. Thirty-one percent of the graduates out of school one

year and 34 percent of those out of school five years were in farming. More than 50 percent of the farmers were farming on a full-time basis. Four of each five graduates (82 percent) engaged in farming were doing so on the home farm.

The percentage of graduates involved in non-agricultural work the first year out of school was 24 percent compared to 46 percent for those out of school five years. A large proportion of these occupations require aptitude and ability in mechanics; however, some of the common types of employment involve skills in working with people.

Twenty-four percent of the graduates out of school one year were in college or technical schools. Of this group, 54 percent were pursuing additional study in agriculture.

Less than two percent (1.67%) of the graduates were unemployed.

8. BETTIS, Mervin Dale, Experimental Development and Evaluation of a Shop Safety Attitude Scale. Library, Iowa State University, Ames.

Purpose. The purpose of this study was to develop and evaluate a shop safety attitude scale to be administered at the beginning of a shop course to help to identify students who may be accident repeaters.

Method. The population consisted of 125 students; 63 in a course in metals and welding and 62 in a course in carpentry and concrete, all enrolled at Iowa State University of Science and Technology. This study determined the relationship between responses given to stimulus words on a semantic differential attitude scale and the accident experience of the students. The semantic differential attitude scale was adapted from one originated by Osgood as described in, "The Measurement of Meaning," 4th edition, University of Illinois Press, 1964.

Findings. The Mouflon step-wise regression technique was employed in selecting the best predictor of accident experience. By using selected scores from the semantic differential attitude scale, 15.68 per cent of the variance could be accounted for in predicting the number of injuries a student may have which would require a doctor's treatment or first aid during a three year period. However, when mechanical aptitude test score, ACT score, cumulative college grade point average, age and three variables from the semantic differential attitude scale were included in the regression equation, 23.36 per cent of the variance could be accounted for in predicting the number of property damage accidents for which the student was to blame during a three year period.

9. BLACKLEDGE, Daniel Gordon, A Study to Determine Selected Factors Which Influence the FFA Membership of Vocational Agriculture Students. Master's Report, M.S., 1972. Library, Kansas State University, Manhattan.

Purpose. The purpose of this study was to determine the relationship between selected factors and the percentage of FFA membership and vocational agriculture enrollment. To accomplish this goal the writer prepared a research instrument to be completed by 80 randomly selected vocational agriculture instructors in Kansas.

Method. The questionnaire contained eleven items and was designed to measure both personal information of the instructor as well as his attitudes about the FFA. The 60 instructors who returned useable responses were divided into three groups of 20 each on the basis of the percentage of the Vo-Ag enrollment who were FFA members. Group I was composed of FFA chapters with a percentage membership of 100 percent; Group II had a percentage membership of 76 to 99 percent; Group III had a percentage membership of 75 percent or less.

Findings. By using the three equal groups a comparison was made of the characteristics of the FFA chapters. A rather definite transition was observed between the three groups on several factors. Major findings between the groups included:

(1) The twenty instructors in Group III with less than 75 percent membership averaged 34 percent more students per Vo-Ag department than the other two groups.

(2) The group with less than 75 percent membership averaged 83 percent more girls per department than those chapters with over 75 percent membership.

(3) In the Group with less than 75 percent membership there were 60 percent more town students per department than the two groups with over 75 percent membership.

(4) Eighty one percent of the vocational agriculture instructors in the 76 to 99 percent membership and 100 percent and over membership groups had the Traditional type of program (Vo-Ag I, II, III,IV). Nineteen percent from the group with less than 75 percent membership also had the Vo-Ag I, II, III, IV program. Those instructors who used the Semester Approach type program (specialized courses such as Animal Science, Horticulture, Ag. Mech.) composed 67 percent of the group with less than 75 percent membership and 33 percent from the two groups with over 75 percent membership.

(5) Eighty eight percent of the instructors in all three groups indicated they did not feel a name change was necessary at this time.

(6) Sixty nine percent of the instructors indicated the FFA did not need to change its image.

(7) Sixty five percent of the instructors indicated that girls did not effect FFA membership.

(8) "Encouragement of Parents" was considered the most important factor in promoting FFA membership by the instructors surveyed.

(9) The group with 100 percent membership participated in more FFA sponsored activities and placed more value on FFA activities than the group with less than 75 percent membership.

(10) Instructors in the group with less than 75 percent membership tended to hold a higher degree, have more years of experience, have lower chapter rating, and spent a smaller percent of their time on the FFA than those instructors with 100 percent membership.

Based on the results of this study, it is evident that the students the FFA is failing to attract are girls and town students. The FFA must take steps to involve these students and also actively involve all students in large departments.

10. BLOSS, Norman Floyd, The Relationship Between Enrollment in Agricultural Education and the Vocational Maturity of Secondary School Students. Dissertation, Ph.D., 1972. Library, The Ohio State University, Columbus.

Purpose. To determine whether or not there was any relationship between enrollment in agricultural education courses and vocational maturity among secondary school students.

Method. Crites' Attitude Scale of the Vocational Development Inventory and a questionnaire were administered to two samples of high school students. One sample included 379 students selected from grades nine through twelve in four local high schools. The sample included three groups: students enrolled in agricultural education courses, students enrolled in other vocational and practical arts courses, and students not enrolled in vocational and practical arts courses. The second sample included 116 students who were enrolled in an area vocational school. There were two groups in this sample: students enrolled in agricultural education courses and students enrolled in other vocational courses. A number of situational variables were investigated, both as to their relationship to the primary independent variable and to the dependent variable.

Findings. A one-way analysis of variance of the vocational maturity scores of the three enrollment groups of the local school sample indicated that the scores of the agriculture students were significantly lower than the scores of the other vocational students and that the scores of the other vocational students were significantly lower than the scores of the non-vocational students. However, an

investigation of the assigned independent variables indicated that the three enrollment groups differed when compared on sex and grade-point average. Females had significantly higher vocational maturity scores than did males and students with the higher grade-point averages had higher vocational maturity scores. When either sex or grade-point average was included as a factor in a two-way analysis of variance of vocational maturity scores, the differences among enrollment group vocational maturity scores were not significant.

Other analyses indicated that the vocational maturity scores of the two enrollment groups in the vocational school sample were not significantly different; that the vocational maturity scores did not differ as a function of the amount of time that students had been enrolled in agricultural education courses; and that the vocational maturity scores did not differ significantly among the three specialized agricultural courses of the vocational school. There were significant differences of opinion among the three enrollment groups of the local school sample on fourteen statements of the Attitude Scale and among the two enrollment groups of the vocational school on sixteen statements. In all but two instances, the agriculture students offered an opinion that was less vocationally mature than that of the other enrollment groups.

It was concluded that there was no evidence to suggest a significant relationship between enrollment in agricultural education courses and vocational maturity among secondary school students. The research revealed that the student who was most likely to be vocationally immature, as defined by the Attitude Scale, was male, was a lower than average school achiever, was quite undecided in his choice of an occupation, and considered security and material considerations important in choosing a job. The father of the vocationally immature student was likely to be in a skilled or semi-skilled job and both parents usually did not have more than a high school education. The research revealed further that students with these characteristics were enrolled in agricultural education courses in greater numbers than were students whose characteristics were associated with high vocational maturity scores.

11. BOATENG, Alfred Kwasi, An Educational Program for the Rural People of the Ashanti Region of Ghana on the Use of Compost as a Means of Increasing Soil Fertility. Dissertation, Ph.D., 1972. Library, Purdue University, West Lafayette, Indiana.

Purpose. To develop a program for educating the farm people of Ghana concerning the use of compost as a means of increasing soil fertility.

Method. Eleven schools in six districts and areas in the Ashanti region of Ghana responded to the requests of the author to participate in the study. Field trials were conducted in eleven primary and middle

school gardens where soil tests had been conducted. The experimental design was 11 randomized blocks with four replicated plots. There were three compost treatments and one control in each replication.

Because of the many illiterate farmers, the measuring device used for measuring the compost was not sophisticated. Local crop varieties of peppers, tomatoes, and maize were used.

Findings. The effects of composting on the mean yield increases was significant in six of the eleven areas at the .01 level. The other five areas where the experiments were conducted had significant differences between the mean yield increases at the .05 level.

Educational programs were devised for use through the following: 1. local chiefs, 2. radio, 3. demonstration teams, 4. extension services, 5. local churches, 6. field days, and 7. local schools.

Availability. The dissertation is available from the Purdue University Library, West Lafayette, Indiana directly as well as through interlibrary loan. It is also available from University Microfilms.

12. BODE, John Cornelius, Criteria for Determining Probable Success of Future Teachers of Vocational Agriculture. Dissertation, Ph.D., 1972. Library, Iowa State University, Ames.

Purpose. The purpose of this study was to investigate criteria which might serve as predictors of success in the teaching of vocational agriculture in Iowa. A secondary purpose was to identify those factors which contribute most significantly to the success, or lack of success, of teachers of vocational agriculture.

Method. A questionnaire was sent to a sample of 128 persons who qualified to teach vocational agriculture at Iowa State University during the period of 1956 through 1970, and who were teaching vocational agriculture in Iowa in 1972. The success of each teacher in the sample was rated by four evaluators comprised of: the high school principal, the high school instrumental music director, the president of the local chapter of the Future Farmers of America, and the county extension director.

Findings. The major findings were these: A large majority of all evaluator groups were well satisfied with the teachers of vocational agriculture. Reasons most commonly cited as contributing to success in teaching vocational agriculture included the ability to maintain good interpersonal relationships with others; dedication and industry; command of subject matter; varied and innovative teaching methods; involvement and cooperation in community activities; and selection of appropriate and current subject matter. The reason most commonly cited for lack of success in teaching was the inability to maintain satisfactory discipline. The Guilford-Zimmerman Temperament Survey did not appear to provide valid prediction criteria for success in teaching vocational agriculture. Grade-point average was not found to be a valid criterion for the prediction of success in teaching vocational agriculture in Iowa.

13. BREECE, Harold Edward, Public Supported Agricultural Mechanics in Instruction in Iowa. Dissertation, Ph.D., 1972. Library, Iowa State University, Ames.

Purpose. The purpose of this study was to determine the content and emphasis in agricultural mechanics instruction provided by public supported educational agencies in Iowa for the fiscal year 1970-1971.

Method. A stratified random sample of 75 secondary school vocational agriculture programs and of 75 local cooperative extension service programs were obtained by dividing the state into five previously established economic areas. The 12 area schools used in the study represented the total number of area post-secondary institutions having agricultural programs at the time the study was approved.

Findings. Secondary school vo-ag programs provided a mean of 268.9 hours of instruction in agricultural mechanics. Students in Vo-Ag I through IV received 211.8 hours and young and adult farmers received 7.4 hours of this instruction. The remaining time, 49.7 hours, was utilized in providing instruction at the levels and of the types listed below: (1) below 9th grade (1.3 hours); (2) small group, individual, and occupational experience visitation, day students (27.6 hours), young and adult farmers (16.8 hours); and (3) FFA (4.0 hours).

The 12 area schools with agricultural programs provided a total of 20,746 hours of agricultural mechanics instruction in the agricultural-technical (ag-tech) and veterans farm training programs. More than 52 percent of the total agricultural mechanics instruction provided by area schools was in farm tractors and power units; and 73 percent of the instruction was in power and machinery. A total of 3,104 hours of instruction were provided for veterans. The mean total hours of instruction provided for youth and adults by county extension services was 44.0 hours.

14. BROECKELMAN, Robert J., A Study of the 1971 FFA Summer Leadership and Citizenship Conference. Master's Report, M.S., 1972. Library, Kansas State University, Manhattan.

Purpose. The purpose of this study of the 1971 Summer National FFA Leadership and Citizenship Conferences was designed to obtain the status of conference participants. Information in the study included: How they were sponsored, reasons for attending, methods of travel, and the tenure of the Chapter Advisor. One of the objectives of the study was to determine whether the distance of travel affected the attendance of the participants. The 314 participants in attendance at the four conferences were for individual leadership development.

Method. A questionnaire was developed which included 14 areas pertaining to the status of conference participants and their FFA Advisors. The author was present to administer the instrument. The data from the questionnaire were tabulated through frequency distributions and the results were given in numbers and percentages for all four conferences.

Findings. The major findings of the study were: The Central FFA Region had 181 or 58% of the participants in attendance at the conference, followed by the North Atlantic FFA Region with 54 or 17%. The Pacific FFA Region had 50 or 16% of the participants, and the Southern FFA Region had 29 or 9% of the total attendance. The attendance at the Leadership and Citizenship Conferences exceeded the enrollment of the Chapter Impact Conferences. Local FFA Chapters were the chief sponsor for 89% of the participants.

Expected outcomes for most participants were to develop their leadership skills, assist in the development of their local FFA Chapter activities, develop more civic responsibility, and to meet other young leaders in the FFA. Most participants attended the conferences to advance in the FFA, tour Washington, D. C., meet their Congressional leaders, and for the leadership training.

Seventy-two percent of the participants had attained the degree of Chapter Farmer, and 95% of the participants had goals to increase their present FFA degree status by attaining the State or American Farmer Degrees. Eighty-two percent of the participants were from chapters which were ranked in the National Chapter Award Program. Means of travel were by air, private auto, bus, train, and camping units with the majority traveling by air.

Most participants were informed about the conference and influenced to attend by their Chapter FFA Advisor. Approximately 77% traveled to the conference alone or with their Advisor. Sixty-seven percent of the participants traveled 800 or more miles to the conferences. Traveling distance to the conference appeared to have little effect on conference attendance. The average attendance was 78.5 participants for each conference.

The author recommended that similar studies be made of participants of leadership conferences sponsored by other youth organizations. The author also recommended that additional leadership development studies be made of District and State Leadership Conferences which have been sponsored by several states.

15. BUTTERFIELD, Ralph Marvin, A Study of the Relative Importance of Agricultural Mechanics Abilities Taught at the 9th and 10th Grade Level as Appraised by the 1960-64 Graduates of Minnesota Schools in FFA Districts 9 and 10 Presently Employed in Agricultural Jobs. Colloquium Paper, M.S., 1972. North Dakota State University, Fargo.

Purpose. To determine the relative importance placed on basic agricultural mechanics skills taught in the 9th and 10th grades in the areas of shop tools and equipment, prefinishing and glazing, woodworking and farm carpentry, painting, welding and hot and cold metal by 1960-1964 graduates in vocational agriculture of selected Minnesota high schools.

Method. The writer selected schools in west central Minnesota in FFA districts 9 and 10. A list of the 1960-64 graduates who had completed three or more years of vocational agriculture was compiled. These graduates were sent a questionnaire listing agricultural mechanics skills commonly taught in the 9th and 10th grades and were asked to rate each skill in importance as it related to their vocation.

Findings and Interpretations. Of the graduates surveyed, 48 percent were farming, 19.5 percent were employed in agricultural mechanics occupations, 15.5 percent were in other occupations, and 17.0 percent were working in mechanics occupations not classified as agricultural.

Respondents considered the area of welding to be the most important of the skills areas studied. Next in importance was the shop tool area. Rated as of least importance was painting. The areas of hot and cold metal work, woodwork and carpentry, and sheet metal were considered to be of slightly more importance than the area of painting, but of less importance than welding and the use of shop tools. The skills area of painting, prefinishing and glazing was considered to be of the least importance by respondents in all occupational areas.

The mean scores of values assigned by respondents engaged in farming were higher in all skill areas than for those other occupational groups. Those in agricultural mechanics occupations had the second highest mean scores with the exception of the painting area.

16. BYERS, Charles W., The Relationship of Selected Variables to the Supervision Provided Students of Vocational Agriculture by Their Teachers. Dissertation, Ph.D., 1972. Library, The Ohio State University, Columbus.

Purpose. The purposes of this study were: 1) to determine the relationship between selected variables and the quantity of supervision (as measured by the number of supervisory visits) provided students of vocational agriculture by their teachers and 2) to determine the relationship between selected variables and the quality of supervision (as measured by the students' rating of teacher performance on supervisory visits) provided students of vocational agriculture by their teachers. The selected variables were: (1) number of vocational agriculture teachers in the department, (2) hours taught each day, (3) hours available for supervision during the school day, (4) number of students in all classes, (5) number of class sessions taught adults during the year, (6) number of days adults were supervised, (7) farms per teacher in the county having above $2,500 gross sales, (8) age of the teacher, (9) years of teaching experience, (10) hours per week spent in church, professional, and community activities, (11) size of the teacher's family, (12) hours the teacher's wife works away from home, (13) number of college courses enrolled in during the year, (14) hours of college work completed above the BS Degree, (15) hours employed per week other than teaching, (16) number of students with

experience programs at school only, (17) hours of student labor on experience programs, (18) whether or not students have written plans on experience programs, (19) amount of investment by students in experience programs, (20) amount of profit by students from experience programs, (21) evaluation of the class instruction by students, (22) attitude of parents toward experience programs, (23) grade completed by students, (24) years of agriculture completed by students, and (25) percent of students having farming programs.

Method. Data were collected from Kentucky teachers of vocational agriculture and their students. Random samples of 85 teachers of vocational agriculture and 914 of their students were taken. Usable responses were received from 725 students (79.3 percent). Mail questionnaires were used to collect the data from teachers and students. Stepwise regression was used in analyzing the data.

Findings. There was a significant correlation between six of the variables studied and the quantity of supervision which students of vocational agriculture are provided by their teachers. The significant variables and the appropriate conclusions were: (1) the more hours of labor students spend on their experience programs, the greater the probability that students will be provided supervision by their teacher, (2) the larger the investment by students in their experience programs, the greater the probability that students will be provided supervision by their teachers, (3) the higher students evaluate the value of the class instruction, the greater the probability that students will be provided supervision by their teachers, (4) the better the attitude of parents toward experience programs, the greater the probability that students will be provided supervision by their teachers, (5) the more students the teacher of agriculture has in all classes, the less likely students are to be provided supervision by their teachers, and (6) the more farms per teacher in the county having above $2,500 gross sales, the less likely students are to be provided supervision by their teachers.

There was a significant correlation between four of the variables studied and the quality of supervision which students of vocational agriculture are provided by their teachers. The significant variables and the appropriate conclusions were: (1) the more class sessions taught adults, the greater the probability that students will be provided quality supervision by their teachers, (2) the higher students evaluate the value of the class instruction, the greater the probability that students will be provided quality supervision, (3) the better the attitude of parents toward experience programs, the greater the probability that students will be provided quality supervision by their teachers, and (4) the more hours the teacher's wife works away from home, the less likely students are to be provided quality supervision by their teachers.

17. BYLER, Bennie Lee, A Study of Factors Associated with the Vocational Development of High School Agricultural Occupations Students. Thesis, Ed.D., 1972. University of Illinois, Urbana.

Purpose. To determine if there are differences in certain aspects of vocational development among the following groups of high school agriculture students:

Group 1 - Agriculture students who plan to enter on-farm agricultural occupations.
Group 2 - Agriculture students who plan to enter off-farm agricultural occupations.
Group 3 - Agriculture students who plan to enter non-agricultural occupations.

Method. The population consisted to all junior and senior students enrolled in secondary agricultural programs in Illinois. A stratified random sample of twenty-one high schools was selected.

The following instruments were administered to a sample of 512 junior and senior agriculture students:

1) Personal, Family and Community Data
2) Vocational Development Inventory by J. O. Crites
3) Work Values Inventory by D. E. Super
4) Occupational Aspiration Scale by A. O. Haller

Chi square, analysis of variance, and coefficient of correlation tests were used to analyze the data.

Findings. Of the 512 students participating, 22.7 percent planned to enter on-farm agricultural occupations; 19.7 percent planned to enter off-farm agricultural occupations; and 57.6 percent planned to enter non-agricultural occupations.

The three student groups differed significantly for the following variables: place of residence, degree of certainty regarding choice of occupation, "significant others" influencing student's occupational choice, student's perception of his ability to perform selected occupation, amount of encouragement from father to follow father's occupation, number of years of post high school education planned, amount of encouragement to continue education beyond high school the student had received from father and from mother.

Students who planned to enter off-farm agricultural occupations received significantly higher vocational maturity scores and level of occupational aspiration scores than students who planned to enter on-farm agricultural occupations and students who planned to enter non-agricultural occupations.

Significant differences were observed among the three student groups for the following work values: "Achievement," "Surroundings," "Supervisory Relations," "Independence," "Economic Return," and "Altruism."

18. CHRISTMAN, Robert John, Training Institute for Rural Disadvantaged -- A Follow-up Study. Colloquium Paper, M.S., 1972. North Dakota State University, Fargo.

Purpose. To determine if as a result of attending the Training Institute for Rural Disadvantaged the participants: 1) had initiated any funded or non-funded projects or activities and the nature of such, 2) interested to begin a project or activity which had not been initiated at the time of data collection, 3) experienced an attitude change in working with disadvantaged rural youth.

Method. A research questionnaire was compiled by the writer with assistance from the Project Director for the Training Institute for Rural Disadvantaged. Data were secured from the questionnaire which was answered and returned by 108 of the 119 participants. Participants included vocational teachers, administrators and counselors who work with the rural disadvantaged.

Findings and Interpretations. Thirty-four of the participants indicate a greater awareness concerning the plight of the rural disadvantaged as a result of attending the Training Institute.

Eleven projects were initiated as a result of the participants attendance at the Training Institute for Rural Disadvantaged. The projects include a community education center, evening school for dropouts, ornamental horticulture and landscaping, construction of a nature trail, employment of teacher aides, school-age pregnant girl program, occupational exploration, adult vocational education program, vocational agriculture disadvantaged program, cooperative vocational education program and employment of an agricultural technician.

A common factor cited as a hindrance in initiating new projects and activities was uncooperative and unconcerned teachers. Limited finances was also listed as a reason for not beginning new, or expanding existing, projects and activities aimed at the Rural Disadvantaged.

19. DILLON, Roy D. and STEVENS, Glenn Z., Identification of Experiences in Applied Biological Science and Agribusiness of Seventh Grade Students. Staff Study, 1972. The Department of Agricultural Education, University of Nebraska, Lincoln.

Purpose. To identify applied biological and agribusiness experiences of seventh grade students in Nebraska.

Method. In a study to identify the applied biological science oriented experiences of seventh grade students and to describe student aspirations for future study of applied biological and agribusiness subjects, a random sample of 1286 seventh grade students was selected in Nebraska. The sample represented 10.6 percent of the seventh grade students in Nebraska in 1970. Each student was asked to check each of 18 specific applied biological and agribusiness experiences that he had participated in.

Findings. (a) Over 70 percent of the students in the sample said they had experienced helping to care for small animals, helping to care for gardens and flowers, helping to care for lawn, shrubs and trees, and operating a lawnmower. Nearly as many girls as boys answered yes in each of the four activities. (b) At least 45 percent and not more than 63 percent indicated they had experienced helping with crops on a farm, helping with livestock on a farm, helping to operate farm, garden or lawn machinery, having a dog as a pet, and operating home workshop power tools. (c) Twenty-one percent indicated they enjoyed caring for small animals, with four times as many girls as boys responding. Eight percent enjoyed driving a car, motor bike or cycle, with at least twice as many boys as girls responding yes. From 4 to 5 percent enjoy caring for gardens and flowers, helping to operate farm, garden and lawn machines, working with a pet, driving a tractor, or working at a part-time job. The preference based on sex varied with the activity. (d) Nearly half of the 1286 students in the sample indicated they would like to learn more about job opportunities for young workers, with nearly 35 percent more girls than boys indicating this desire. Almost one-third said they wanted to learn more about growing livestock and crops, mechanics and tractor operation and soil, water and wildlife conservation. Boys' responses were stronger in these three activities. One-fourth of the students wanted to learn more about business and store operation, with 30 percent more girls than boys showing this interest. Also, almost one-fourth of the students desired to learn more about growing and selling horticultural plants and flowers, with over three times the interest from girls as for boys. (e) Of the 1286 students in the sample, 835 or 64.93 percent indicated they would enroll in a high school course to study agricultural subject concerning animals, plants, mechanics, or agribusiness.

It is clearly evident from the results described, that seventh grade students in Nebraska have gained considerable exploratory experiences through formal and informal learning routes. School curriculum planners must be cognizant of the kinds of vocationally oriented experiences youth are obtaining, because in many cases formal school instruction may come after the youth has already participated in a particular experience, and has developed acceptable or possibly undesirable procedures.

20. DILLON, Roy D. and WALKER, Robert W., An Assessment of Applied Biological Science Interests of Seventh Grade Students. Staff Study, 1972. The Department of Agricultural Education, University of Nebraska, Lincoln.

Purpose. To assess learned interests of Nebraska seventh grade students using the 100 item "Applied Biological and Agri-Business Interest Inventory."

Method. The Interest Inventory was administered to a stratified random sample of 1286 seventh grade students in Nebraska. This sample

group represented 10.6 percent of the seventh grade students in Nebraska in 1970.

The 100 item Interest Inventory was designed to measure learned interest relative to animals, plants, mechanics and business. A general interest score and four part scores were calculated for each student. A general interest and/or part score of 62-100 was defined as a high interest. Students with scores between 42-61 were defined as having middle interest, and those with scores below 42 were defined as having a low interest.

Findings. Slightly over 28 percent of all students tested received high general interest scores. Almost two-thirds, or 65.6 percent of the students received a middle score or higher. The range was 56.3 percent of the seventh graders in school class group 4 to 83.5 percent of the seventh graders in school class group 2 who received a middle score or higher. The results indicate that 731 or 56.8 percent of the respondents received a middle or higher part score in animals.

There were 522 or 40.5 percent of the seventh graders in the sample who received high part interest scores in plants and horticulture. Also, 396 or 30.8 percent of the students in the sample received middle scores.

The data reveals that 378 or about 29 percent of the students received high part interest scores in mechanics. The data also show that 731 or 56.8 percent received middle or higher interest scores.

Seventy-one percent of the students in school class group 6, about 64 percent in school group 2, and 55 percent in school group 8 received middle or higher part interest scores in business.

The results of the study indicate a high degree of learned interest by seventh grade boys and girls in Nebraska schools in Applied Biological and Agribusiness subjects. These learned interests are based on previous individual experiences in school and away from school.

Vocational education programs in high schools should be designed to prepare young people for their next pursuit after graduation. Students' interests, needs, and employment opportunities should form the basis upon which decisions are made concerning what vocational courses to offer in the high school curriculum.

21. DOUGLASS, Richard L., A Pilot Study of the Influence of Mediated Career Information Via Significant Others on Aspirations, Understandings and Attitudes of Eighth Grade Students. Ph.D., 1971. Department of Agricultural Education, University of Nebraska, Lincoln.

Purpose. The purpose of this study was to evaluate the effectiveness of mediated career information via significant others on occupational aspirations, understandings, and attitudes of eighth grade students. The major objective was to test the following null hypotheses: (1) There is no difference between the experimental and control groups on the basis of student's knowledge of occupations. (2) There is no difference between the experimental and control groups on the basis of student's level of occupational aspiration. (3) There is no difference between the experimental and control groups on the basis of student's attitude toward work. (4) There is no difference between pre and post-test scores on the basis of the significant other's knowledge of occupations. (5) There is no difference between pre and post-test scores on the basis of significant other's attitude toward work. (6) There is no difference between pre and post-test scores on the basis of the significant other's level of occupational aspiration. (7) There is no difference between pre and post-test scores on the basis of significant other's occupational expectation for youth.

Method. The study involved 152 eighth grade students enrolled during the spring of 1971 in Goodrich Junior High School, Lincoln, Nebraska. The students were randomly assigned to the treatment groups. There were a total of 55 students in the experimental group and 49 in the control group. The remaining students were eliminated from the study because they shared one or more significant others with students in the experimental group.

A total of 254 significant others as identified by the experimental group, were contacted by letter and/or phone. They were apprised of their role as significant others and invited to watch 35mm slide and audio tape presentations on 100 different occupations. A total of forty-one significant others attended one or more sessions. The total number of contact hours with significant others was 173.5.

Findings. Given the type of materials, the time span, and limited participation on the part of significant others, the results indicate that: (1) Mediated career information via significant others will effect no measurable change on occupational aspirations, understandings and attitudes of eighth grade students; (2) Mediated career information will cause significant others to expect youth to reach lower prestige level occupations. (3) Mediated career information will receive a favorable evaluation by significant others.

22. ELSON, Donald E., An Evaluation of the Landscape and Technician Program at Michigan State University. Dissertation, Ph.D., 1971. Library, Michigan State University, East Lansing.

Purpose. This research was concerned with an evaluation of the Landscape and Nursery Technician program at Michigan State University. The objectives of the study were to: (1) determine the reasons why former students left the program; (2) to ascertain the job history of the former students; (3) determine the amount, kind, and source of additional formal education received by former students since leaving the

program: (4) determine the ability of the persistent former students to function effectively with other employees; (5) determine the extent of participation by persistent former students in activities which affect the community and the landscape and nursery industry; (6) determine when the persistent former students learned the most about each of fifty-five selected competencies; (7) determine the importance of selected competencies as perceived by persistent former students and employers; (8) determine the ability of persistent former students to perform the selected competencies; and (9) determine those competencies needed by supervisory or technician level personnel, but not provided to students while they were enrolled in the technical program.

Method. The population consisted of former students of the Landscape and Nursery Technician program who graduated or were scheduled to graduate in 1966, 1967, 1968, 1969, and 1970. Also included in the population were thirty-eight employers of former students working in the landscape and nursery industry. One hundred sixty-two former students were contacted by telephone to obtain basic data. Eighty-two percent of them responded to a two-part questionnaire. The first part of the questionnaire concerned personal data and reactions to the program. In the second part, the former students were asked to judge the importance of fifty-five selected competencies and provide ratings of their abilities to perform these competencies. Seventy-nine percent of the employers responded to a mailed questionnaire. This questionnaire contained two sections. In the first section, employers were asked to rate former students, now in their employ, on twelve personality traits and on the quantity and quality of their work. In a second section, they were also asked to judge the importance of fifty-five selected competencies and to rate the abilities of former students in their employ, to perform them. Statistical tests used in the study included anaylsis of variance, Pearson product-moment correlation, and Student's *t*.

Findings. 1) Nearly one-half of the former students who withdrew from the Landscape and Nursery Technician program transferred to another college or participated in other formal educational programs after leaving the program. Attainment of associate, baccalaureate, or higher degrees are within the abilities of many former students of the Landscape and Nursery Technician program.

2) Graduation from the Landscape and Nursery Technician program and persistence in the landscape and nursery industry do not necessarily result in increases in job satisfaction, job stability, or salary.

3) The Landscape and Nursery Technician program appears to provide a practical education; however, a wider range of courses would seem to improve the program.

4) Employers tend to rate persistent graduates higher than persistent dropouts on twelve personality traits. Persistent graduates also exhibit greater social and civic responsibilities when compared to persistent dropouts.

5) Former students and their employers agree that competencies in the areas of human relations are the most important for successful employment in the landscape and nursery industry.

6) Persistent former students, now employed, perceived that they learned most about a majority of the competencies, considered necessary for their employment, in situations other than in the Landscape and Nursery Technician program.

7) Self-assessment by former students and ratings by employers indicate that former students are most capable of performing competencies related to the areas of working with people and customer relations, while they seem to be lacking in abilities related to soil science. Employers reported that persistent former students perform their duties and assignments in the landscape and nursery businesses at a higher level than other employees with no formal training and with as much as four years more experience than the former students have had in the landscape and nursery industry.

23. ERPELDING, Lawrence H., Jr., Professional Education Competency Needs of Teachers of Vocational-Technical Programs in Post-Secondary Schools. Dissertation, Ph.D., 1972. Library, Kansas State University, Manhattan.

Purpose. The primary purpose of this study was to ascertain the professional education competency needs of post-secondary occupational education teachers in Kansas. The study was limited to 120 occupational education teachers in area vocational technical schools and community junior colleges in Kansas. The occupational areas represented were: agricultural education, business and office education, distributive education, health occupations, home economics, and trades and industrial education.

Method. The study involved the identification of 45 professional educational competencies considered useful and necessary for post-secondary occupational education teachers. A research instrument was developed to allow respondents to rate level of proficiency required, proficiency attained and designate the type of educational setting where proficiency in the competency could best be attained. Four hypotheses were developed to serve as the basis for the study.

Findings. The Analysis of Variance, Chi-Square and the T-test were the statistical techniques used. Turkey's multiple comparison procedure was used to determine the occupational areas between which significant differences for proficiency level required or attained existed. The level of significance was set at the .05 level. The findings suggested that there were a large number of similarities and a few, but major, differences in the levels of proficiency related to the 45 professional education competencies required for success by post-secondary teachers in the six occupational areas.

The data indicated agriculture teachers perceived a need for inservice education for 33 of the 45 professional education competencies. Thirty-nine significantly lower mean scores for possessed compared to the mean scores for proficiency attained were isolated for business and office education teachers; 19 for distributive education teachers; 20 for health occupations teachers; 40 for home economics teachers; and 15 for trades and industrial education teachers.

The study indicated that teachers among the six occupational areas agreed in most instances about the types of educational settings in which the 45 competencies could best be attained. Responses for ten competencies indicated significant disagreement between occupational areas. However, there was disagreement by teachers within each occupational area. The teachers as a group were often undecided whether certain competencies could most advantageously be attained in a comprehensive educational setting, comprehensive occupational area setting, or specific occupational area setting.

24. GLOVER, Eston W., Jr., An Analysis of Selected Variables Associated with the Educational Growth of Students in the Wisconsin Vocational Agriculture Pilot Programs, from the Eleventh to the Twelfth Grade. M.S. Report, 1972. University of Wisconsin, Madison.

Purpose. The purpose of this study was to analyze the growth of students from the eleventh to the twelfth grade who were enrolled in the vocational agriculture pilot program in schools in Wisconsin. The variables of analysis included occupational experience, extra-curricular activities, stage of career choice, personal reason for curriculum choice, occupational aspirations, occupational expectations and vocational maturity.

Method. A questionnaire was administered to eleventh grade students to gather data on each of the variables. The questionnaire was repeated one year later. Fifty-nine students comprise the population for the study.

Findings. The following results were obtained when each of the variables were analyzed by vocational maturity levels and year in the program.

Occupational Experience. The vocational maturity level had a definite bearing on the amount of occupational experience a person had encountered. The high vocational maturity range reported more occupational experience than the low range. Both groups reported a decrease in the "no experience" category, but there was a greater decrease in the high vocational maturity range than in the low.

Extra-Curricular Activities. In the low vocational maturity range there was a decrease in the respondents extra curricular activities from the eleventh of the twelfth grade, but in the high vocational

maturity range there was an increase in the respondents extra-curricular activities.

Stage of Career Choice. The students in the high vocational maturity range indicated a more definite career reason for entering the course than the students in the low vocational maturity level. There was also an increase in this from the junior year to the senior year, while there was a decrease from the eleventh to the twelfth grade in the number of persons in the low vocational maturity group entering the course for a definite career reason.

Students Reasons for Enrolling in the Course. Only 35 percent of the students with a low vocational maturity score (averaged over the two year period) indicated the course fit into their career plans for the future as their reason for enrolling, while 98 percent of the students with a high vocational maturity score (averaged over the two year period) indicated their reason for enrolling in the course was because the course fit into their career plans for the future.

Academic grades. The academic grades increased for both ranges of vocational maturity, with the high range increasing the most.

25. HANSON, Clark William, Public Supported Instruction in Off-farm Agribusiness in Iowa. Dissertation, Ph.D., 1972. Library, Iowa State University, Ames.

Purpose. To determine the content and emphasis in secondary vocational agriculture programs, post-secondary area vocational school curricula, and county cooperative extension programs concerned with off-farm agribusiness management instruction in Iowa.

Method. A stratified random sample of 75 secondary vocational agriculture departments, 75 county extension programs, and all post-secondary area schools providing instruction in agriculture were surveyed to determine the number of hours of instruction being provided by each program in the agribusiness area.

Findings. Instructors in the northeastern dairy region provided a mean of 151.8 hours of instruction compared to a sample mean of 86.8 hours of instruction in off-farm agribusiness management. Instructors in the other four economic areas provided a range of 59.0 to 89.8 hours. Nearly 20 percent of the instruction provided by the instructors was devoted to career opportunities in agricultural occupations. Instruction in agricultural salesmanship, supervised employment experience, and orientation to occupational experience programs each represented about 11 percent of the total hours of instruction provided in off-farm agribusiness management.

The six subject matter areas most emphasized in post-secondary area schools were: (1) business procedures, (2) agricultural salesmanship, (3) human relations, (4) organization and functions of agricultural business, and (5) new developments in agricultural occupations.

County extension directors provided a mean of 14.7 hours of instruction in business procedures, 4.9 hours in wildlife conservation and natural resources, and 4.8 hours in rural recreation. Extension directors provided a mean of only .1 hours of instruction in agricultural salesmanship and new developments in agricultural technology.

26. HANSON, Herbert Eugene, Experimental Evaluation of Video-Tape on Instruction in Vocational Agriculture. Dissertation, Ph.D., 1971. Library, Iowa State University, Ames.

Purpose. The purpose of this study was to investigate the effectiveness of video-taped instruction in selected vocational agriculture departments in Iowa.

Method. Twelve schools were randomly selected from those that met certain criteria with six being assigned to the treatment and six to the control groups. Four subject matter units were selected which were typical of the four grade levels of vocational agriculture, namely, animal health, commercial fertilizers, small gas engines, and farm credit. Subject matter outlines and reference material were furnished to all schools to be used during the three-week experiment. Four video-taped segments designed to reinforce specific learning objectives were provided to the treatment schools in each subject matter area. Data collected on each student concerning aptitudes, interests, experiences, home farm and family factors. Information was also gathered relative to teacher knowledge, attitudes, experience and class size.

Findings. The findings of the study may be summarized as follows: (1) no differences in pretest scores were measured between the experimental groups, (2) no differences in post-test scores were measured between the groups due to video-tape when other factors were made equal through the analysis of covariance technique, (3) no differences in gain scores due to video-tape were measured between the groups when other factors were made equal through the analysis of covariance technique, and (4) both groups gained a significant amount of knowledge during the experiment. The factors used as covariates which were identified by the step-wise regression technique included 16 personal factors, 5 home farm and family factors and 5 teacher and school factors.

27. HARRELL, William Raymond, Effects of Knowledge of Results on Acquisition of Motor Skill in Arc Welding. Ph.D. Dissertation, 1972. University of Missouri, Columbia.

Purpose. To investigate the effects of four selected methods of providing knowledge of results, information feedback, on acquisition of motor skill in arc welding. A further purpose was to ascertain the effect of different instructors on criterion performance on selected arc welding tasks.

Method. Eighty male college students enrolled in two sections of an introductory agricultural mechanization course, taught by different instructors, were selected as subjects for this study. Each section was sub-divided into two laboratory sections and the subjects within each laboratory section were randomly assigned to four experimental groups. The subjects received knowledge of results on arc welding task performance through: (1) visual evaluation and constructive criticism by the instructor, (2) self evaluation by comparing performance to prepared models, (3) group evaluation by subjects within each experimental group, or (4) subject and instructor evaluation of coupons derived through the implementation of the Nick-break test.

A 2 x 4 pretest-post-test design was utilized. Subjects were pretested at the beginning of the supervised laboratory training period which consisted of nine, two-hour sessions. The experimental treatment was administered during this period and subjects were post-tested upon its completion.

Data for the experiment were derived by the implementation of the Nick-break test on all pretest and post-test weld specimens. A coupon taken from each specimen was scored by the investigator.

Two-way analysis of covariance was used to test for significant treatment, instructor and interaction differences. Correlation coefficients were used to test for correlation between pretest and post-test scores.

Findings. Performance on the four complex arc welding tasks was not significantly affected by the four selected methods of providing knowledge of results on performance during supervised practice. Correlation between pretest and post-test scores for the flat position butt weld was not significant. However, a significant correlation was found between pretest and post-test scores for the three out of position arc welding tasks. Criterion performance was significantly different for the groups taught by different instructors on three of the four arc welding tasks.

28. HEMP, Paul E.; THOMAS, Hollie B.; WALKER, Robert W. and WILLIAMS, David, The Development of an Instructional Model for Orienting Students about Agricultural Occupations Using the Job Cluster Approach. Staff study, 1972. University of Illinois, Urbana.

Purpose. To prepare and refine a twelve-weeks unit in agricultural occupations orientation using a job cluster approach.

Method. Five clusters of agricultural occupations were identified and used in the occupational unit. The five clusters, agricultural production, ornamental horticulture, agricultural resources and forestry, agricultural mechanization and agricultural supplies and products, were broken down into families of occupations and representative job titles. Information regarding these job titles and clusters was gleaned from the

literature and written up in job-brief form for student use. Teaching guides for each of the five clusters were prepared.

Findings. This project was a part of a larger curriculum development program involving health occupations; business, management, and marketing occupations; industrially oriented occupations; personal and public service occupations; and applied biological and agricultural occupations. Teaching units and representative job briefs were prepared as a teaching package. The resulting unit will be field tested in six pilot high schools in the fall of 1972. The materials have been designed for use at the eighth, ninth, or tenth grade level. The project involves both the identification of appropriate content for an occupational orientation unit and the development of workable teaching strategies.

29. HILLISON, John Howard, Manpower Needs in Environmental Management. Dissertation, Ph.D., 1972. Library, The Ohio State University, Columbus.

Purpose. The purposes of this study were: (1) to describe current and emerging occupations in environmental management in Ohio; (2) to estimate the number of persons currently employed and to project employment opportunities in these occupations; and (3) to describe the tasks performed by persons employed in selected environmental management occupations.

Method. Personnel in the Ohio Department of Health identified current and emerging occupations in the environmental management areas of water and air management and assisted in identifying administrators in public facilities from whom data were collected concerning present and future personnel needs. Data were collected by personal interviews with administrators in wastewater and water treatment facilities serving Ohio's eight cities of over 100,000 population and by personal interviews and mail questionnaire from a random sample of administrators in wastewater and water treatment facilities serving less than 100,000 people. Manpower data for air management occupations were obtained through interviews with administrators in the ten air pollution control areas in the State and in the Ohio Air Pollution Control Unit. The manpower data that were collected consisted of the number of persons employed in environmental management occupations in 1968 and 1971 and the number of persons needed in these occupations in 1974. Task analysis data were collected by personal interviews with Non-certified Operators, Operator I personnel, and Operator II personnel in wastewater and water treatment facilities and with air pollution inspectors in air pollution control units. Persons employed in these positions were asked to describe their jobs by giving the relative amount of time they spent on each task. Supervisors of these employees were asked to describe the relative importance of each task completed by the employee.

Findings. The results of the manpower study showed that administrators anticipated additional manpower needs for all full-time wastewater treatment positions for the three-year period 1971-1974. For part-time employees, all positions showed a decrease in manpower needs for the three-year period. The findings showed an increased need for full-time water treatment employees at all positions except the Non-certified Operator. Facility administrators anticipated a decrease in the number of part-time water treatment operators for all positions except Operator II. The findings showed a need for more people at all full-time air pollution control positions for 1971-1974. The only part-time position in air pollution control (technician) indicated no significant increase in manpower needs during the 1971-1974 period.

The task analysis indicated a high degree of relationship between employees' ratings of percentage of time spent on a task and their supervisors' ratings of the importance for that task. The results also showed a slight variation in tasks completed by people with the same position in facilities serving cities of various sizes. Generally, employees in facilities serving less than 100,000 people carried out more tasks than their counterparts in facilities serving more than 100,000 people. It was recommended that vocational education programs for high school students be implemented to help meet environmental management manpower needs. It was further recommended that the tasks described by the task analysis be utilized as the nucleus for the curriculum in these vocational programs.

30. HOLLANDSWORTH, Ronnie, Determination of Agricultural Mechanics Skills Needed by Vocational Agricultural Graduates of Wamego High School 1965 through 1969. Master's Report, M.S., 1972. Library, Kansas State University, Manhattan.

Purpose. The major purpose of this study was to survey which skills the Wamego vocational agriculture graduate considered necessary for successful employment.

Method. The questionnaire consisted of five areas. Each area was divided into units and the units contained a complete listing of vocational agriculture mechanics skills for secondary school students. The responses given to the items in the questionnaire by the vocational agriculture graduates were analyzed by assigning a weighted value to the responses given. These assigned ratings were: Very useful, 5 points; Useful, 3 points; and Little or no use, 1 point. The sum for each was then divided by the number of responses. All skills which received a weighted average rating of 2.0 or above are to be considered as important in the development of a curriculum to prepare workers for employment in farm and farm related areas.

Findings. The combined respondents indicated an overall rating of 2.0 or more for 27 of the 29 skill units. The farm group indicated the same 27 units as the total group as important and should be included in

the curriculum. The non-farm group indicated 25 of the 29 units had a weighted average of 2.0 or more and should be included in an agricultural mechanics curriculum. The 2 units which the non-farm group did not rate as important, but the farm group did, were "farmstead layout" and "water systems." The "heating" and "septic tank construction" units were not considered important by either group.

The units of tool conditioning, welding, cold metal, hot metal, carpentry, soldering and concrete were considered important in the farm shop area. The units of machinery adjustment, tractor maintenance, machinery, and tractor service, motor repair, and small motors were considered important in the farm power and machinery area. In the rural electrification area the units of selection of materials, procedures of wiring, installation, maintenance, and motors were considered important. The units of drawing, farmstead layout, requirements of farm buildings and water systems were considered important in the area of farm buildings and conveniences. The units of elementary leveling procedures, farm drainage, irrigation, terracing, contour farming and pond dam check were considered important in the area of soil and water management.

The following conclusions were reached after reviewing the results of the study:

1. The skills required for farming and for non-farm employment are very similar.

2. Since skills required are very similar for both farm and non-farm students, they could be taught in a combined class of students.

31. HOOF, Hilbert John, Machine and Machine Operator Characteristics Associated with Corn Harvest Kernel Damage. Dissertation, Ph.D., 1972. Library, Iowa State University, Ames.

Purpose. The purpose of this study was to determine the relationship of selected agronomic, machine operator and machine operation characteristics to harvest incurred damage to shelled corn.

Method. A list of factors potentially affecting the degree of harvest damage to shelled corn was formulated. Two-hundred and nine shelled corn samples with accompanied information descriptive of factors associated with the corn harvest were obtained. Data descriptive of the harvest associated factors and the accompanied data descriptive of the degree of mechanical kernel damage were processed.

Findings. Kernel damage, though largely uncontrolled, exhibited significant associations with combine make, corn variety, harvest rate per cylinder inch, cylinder speed, corn moisture and test weight, operator experience, concave clearances, frequency of machine adjustment, row spacing, years vo-ag operator status, source of operator knowledge and harvest ground speed. Commonalities among variables were established by factor analysis. Significant prediction equations, based upon the variables studied, were developed for estimating the influence of production and harvest practices on several types of kernel damage.

32. HORNER, J. T., DOUGLASS, R. L., ZIKMUND, D. G., and HORNER, R. L., Effectiveness of Mediated Career Information Programs. Staff Study, 1971. The Department of Agricultural Education, University of Nebraska, Lincoln.

Purpose. The problem was to: (1) develop and mediate accurate realistic occupational information, (2) field test the mediated career information programs, and (3) collect and analyze data to evaluate the effects of occupational guidance materials toward modifications of aspirations, attitudes, and knowledge about the world of work.

Method. Interviews were conducted with persons employed in each of 100 selected occupations, photographs were then taken of persons on the job -- the result, a series of 100 five-minute programs on 35mm slides and audio tapes.

The following pilot studies, mini- and quasi-experiments were conducted: (1) A Pilot Evaluation of Mediated Career Information with Composite Age Groups, (2) Evaluation of Mediated Career Information with Eighth Grade Students, (3) Evaluation of Mediated Career Information with High School Sophomores, (4) Evaluation of Mediated Career Information with Culturally Deprived Youth (17-22 years of age), and (5) Evaluation of Mediated Career Information with Post-Secondary Students, (6) Evaluation of Mediated Career Information with Adults Who were Significant Others to Eighth Grade Students.

The single-group pre-test, treatment and post-test as well as the two-group (experimental and control) post-test only designs were used.

Findings. By comprehensive review of literature and preview of occupational information available, we found a dearth of accurate and realistic materials in a form palatable to most youth.

Based upon our limited research, we concluded that mediated career information (slide-tape presentations) is quite acceptable to youth at various age levels, and that they are effective guidance materials especially at the junior high and secondary levels and with culturally deprived youth, in terms of modifying aspirations, understandings and attitudes.

33. HUDDLESTON, Kenneth Fred, A Competency Pattern Approach to Development of Curricular Models for Secondary School Agricultural Occupations Programs. 1972. University of Illinois, Urbana.

Purpose. (1) To identify the agridistributive competencies needed by persons for initial job entry and first promotion in feed, seed, chemical, petroleum, and plant food occupations in selected agricultural

supply businesses. (2) To identify the agridistributive competencies needed by persons for initial job entry and first promotion in feed, seed, chemical, petroleum, and plant food occupations in selected agricultural supply businesses which are common to all five occupational areas. (3) To develop curricular models for secondary school agricultural occupations programs and to suggest procedures for evaluating the effectiveness of such models.

Method. An original list of agridistributive competencies needed for this study was constructed from a review of the related literature. The list of competencies was refined by a panel of experts and field tested for clarity and completeness of the statements. The population for this study consisted of all FS member companies in a fourteen-county area in East Central Illinois. At each of the ten FS member companies, the division supervisors for feed, seed, plant food, chemicals, and petroleum were asked to complete a questionnaire with respect to the area of their responsibility.

Findings. Businessmen rated several basic mathematic and communication skills as requiring from reasonable to considerable understanding or ability for initial job entry in all five occupational areas investigated. Two social and human relations skills, understanding the importance of maintaining good health for effective job performance and understanding the importance of exercising self-control during trying situations, also received consistently high ratings. Thirty-two competencies requiring from only limited to reasonable understanding or ability were identified. These competencies stressed social and human relations skills and centered around building good customer relations. The ability to plan, organize, and accomplish a task were identified in this group.

Thirty-one competencies were identified as requiring from considerable to thorough understanding or ability for first promotion in the agricultural supply industry. Skills relating to customer relations, business operations, and product knowledge were included in the group. Competencies requiring from reasonable to considerable understanding or ability for first promotion numbered 56. Most of these competencies fell in the categories of business operations, customer relations, and sales.

The study presented curricular models for secondary school agricultural occupations programs which will provide students with the agridistributive competencies needed for job entry and first promotion in positions leading to midmanagement in agricultural supply businesses. The study also suggested procedures for evaluating the effectiveness of the models presented.

34. HUTCHINGS, Ronald Paice, The Influence of Excessive Fat Prior to Weaning on the Milking Potential of Beef Heifers. Dissertation, Ph.D., 1972. Library, The Ohio State University, Columbus.

Purpose. To investigate the influence excessive fat prior to weaning has on the milking potential of beef heifers by studying the relationship between a cow's raw weaning weight and the average adjusted weaning weight of her calves.

Method. A thorough review of the literature suggests that the heaviest, highest grading heifers at weaning time were also usually the fattest females. This review revealed that a conflict presently exists among cattlemen regarding selection methods commonly used by the majority of producers. This uncertainty focused on the following realizations: (1) There are a few commercial cattlemen who have yearly records to support the fact that the presently used selection methods have resulted in little if any improvement in weaning weights; (2) Cattlemen today have come to a sudden realization that presently adopted selection methods have resulted in a loss of milk production in their cow herd; and (3) Economics of higher expenses without a substantial increase in price per pound of marketable products, which in this case is the calf, had necessitated producers to strive for increased weaning weights of all sale animals.

An attempt was made to study the records on every cow that was born from 1954 through 1963 and kept as a replacement in the breeding herd on the Crowe Hereford Ranch located in Millville, California. Every cow studied was placed into one of five groups for each of three variables: raw weaning weight, weaning age, and age corrected weaning weight. For the main independent variable, cow's raw weaning weight, cows weaning less than 400 pounds made up Group I. Group V was comprised of all cows weaning over 549 pounds. The three middle groups were divided by fifty-pound intervals. The average adjusted weaning weight of all calves produced by each cow was computed. The cow's calves were adjusted for age of dam, to a 205-day corrected weaning age and for sex so cows could be uniformally studied.

Findings. It was hypothesized that the heavier heifers at weaning time would be poorer producers than the lighter weaning heifers when kept as replacements in the breeding herd. The heaviest group of cows (Group V), consisting of cows with raw weaning weights exceeding 550 pounds, weaned calves with average adjusted weaning weights of 465.5 pounds while the Group I cows, that had weaning weights of less than 400 pounds each, weaned calves with average adjusted weaning weights of 534.2 pounds. The correlation coefficient between a cow's raw weaning weight and the average adjusted weaning weight of her calves was -.42. The regression of the average adjusted weaning weights of a cow's calves on the cow's raw weaning weight resulted in a regression coefficient of -.31.

The following major conclusions were drawn by the investigator based upon his interpretation of the data and information presented in this study: (1) Heifers with lighter raw weaning weights tended to wean calves with heavier average adjusted weaning weights, when selected as replacement females, than their heavier counterparts; (2) Heifers with younger weaning ages tended to wean calves with heavier adjusted weaning weights, when selected as replacement females, than their older counterparts; (3) Overfeeding of heifer calves prior to weaning tends to have a definite negative relationship on their future potential milking ability if saved as replacements; and (4) The environmental influence prior to weaning on a heifer's future milking potential appears to be higher than the heritability transmitted by her parents' genes.

35. IVERSON, Maynard J., Use of Resource People by Teachers of Vocational Agriculture in Kentucky. Staff Study, 1972. Department of Vocational Education, University of Kentucky, Lexington.

Purpose. The primary purpose of this study was to determine the utilization of resource people by teachers of vocational agriculture in Kentucky. Specific objectives included determining number and kinds of resources personnel used, means used in locating them, their effectiveness and areas where additional help was needed.

Method. All vocational agriculture teachers in Kentucky comprised the population of the study. Questionnaires were administered to approximately 200 teachers in attendance at District meetings during the Fall and Spring semesters.

Findings. Eight out of ten Vocational Agriculture teachers in Kentucky used resource personnel in their classes; five was the average number used. The most (7.6) were used in young farmer classes; and the least in high school classes (3.1). One-third of the respondents increased the number of resource personnel used in 1972 over the previous year.

Most of the resource people used were from local and area agribusiness firms, the Cooperative Extension Service, financial institutions, agencies of the U. S. Government (SCS, ASCS, FLB, FHA, etc.), and the professions (lawyers, veterinarians, and the like). Few were from out-of-state.

Personal contacts were the major means of identifying and securing the services of resource personnel, county Extension agents were the next most frequently listed source, class members, other Vocational Agriculture teachers, university contacts and local advisory groups were also utilized. The State Staff (supervisors and teacher educators) were used the least.

Performance of resource people was primarily rated as "good" to "excellent."

Major problems experienced by teachers in using resource personnel were time in arranging and finding qualified people, keeping speakers on the topic and within the time limit, and cost.

Teachers expressed the need for additional resource people in a wide variety of areas, mostly the highly technical areas and new developments in agriculture.

36. KROHN, Glen Herbert, Aide Utilization In Voluntary Youth Educational Programs. Ph.D., 1972. Department of Agricultural Education, University of Nebraska, Lincoln.

Purpose. The primary purpose of this study was to identify the tasks carried out in a voluntary youth education program and to determine those areas of agreement as well as disagreement between aides and professionals as to the potential tasks aides might or might not perform in the program. Data gathered in the study were in the following areas: (1) Tasks carried out in voluntary youth education programs. (2) Those tasks which professionals in voluntary youth educational programs felt could be an aide responsibility. (3) Those tasks which aides in a voluntary youth educational program felt could be an aide responsibility. (4) Those tasks which aides and professionals agreed or disagreed on when considering the aide responsibility in a voluntary youth educational program.

Method. The criteria the investigator utilized for selection of the specific program to answer the purpose of this study were: (1) Participation of youth should be voluntary. (2) A professional should be responsible for the program operation. (3) An organization with a central sponsoring organization of national scope. (4) A program built around a club and/or group with a strong voluntary leader staff. (5) Youth involved include the upper elementary grades through high school or age 19. (6) Paid aides were presently used in the program on a regular basis.

The 4-H Program offered through the Nebraska Cooperative Extension Service was an organization which fit these criteria.

A list of tasks utilized in the inquiry for this study was developed and submitted to a reviewing group of individuals familiar with the 4-H program. They were asked to examine the tasks and determine if they were accurate and adequate to cover the major tasks necessary in a 4-H program. They were also asked to assist the investigator in categorizing the tasks into the following areas: Recruitment - Youth and Adults, Planning, Teaching - Youth and Adults, Activities and/or Recognition, Administrative, Clerical and/or Supportive, Evaluation. These areas in the study were referred to as the Domain of Youth Program Inputs.

The list of tasks developed by the review panel was presented to Nebraska extension aides employed for a period of at least six months and were mailed to all professionals in the Nebraska Cooperative Extension Service who had aides working in their counties. The individuals were asked to respond as to which of the tasks they felt could be an aide responsibility. The results of the study were based on the analysis of those responses.

Findings. The data gathered in the study and its analysis provide the basis for the following conclusions: (1) Professionals and aides had definite feelings on the nature of the tasks an aide could assume in the program. (2) The professionals and aides agreed more than disagreed on those tasks which could be an aide responsibility. (3) Complete agreement did not exist between professionals and aides on those tasks which could be an aide responsibility. The performance of such tasks could lead to conflict in the organization if not recognized. (4) Aides felt that there were more tasks that they could perform in a voluntary youth educational program than did the professionals. (5) Aide responsibilities were found to be most acceptable in the areas of recruitment, teaching, and activities and/or recognition. (6) The major areas of administration and planning were considered to be primarily the responsibilities of the professional. (7) Specific tasks were identified on which the respondent groups agreed or disagreed when considering the task as an aide responsibility. (8) The tasks chosen as an aide responsibility suggested areas of training which may be needed by staff involved. (9) The tasks upon which there was disagreement, as identified in this study, should only be assigned to aides after careful consideration by extensive orientation with and training for all staff involved, if staff conflict is to be kept at a minimum.

37. LUTOVSKY, Darryl Joseph, Teaching Problems as Reported by First Year Vocational Agriculture Instructors of North Dakota, Minnesota, South Dakota, and Montana. Colloquium Paper, M.S., 1972. North Dakota State University, Fargo.

Purpose. To evaluate some of the serious problems that are common to most vocational agriculture instructors and to identify the specific problems and problem areas that cause the greatest difficulties for the beginning instructors.

Methods. A questionnaire was mailed to all the first year instructors of vocational agriculture of North Dakota, Minnesota, South Dakota, and Montana. The instructors were asked to evaluate to what degree problems listed interfered with their conducting effective instructional programs. Problems included in the study were grouped into the areas of classroom problems, shop problems, F.F.A. problems, supervised occupational experience program problems, adult and young farmer program problems, community relation problems, and general teaching problems.

Findings and Interpretations. The 86 first-year vocational agriculture instructors surveyed indicated the ten most serious problems to be: 1) finding enough time to help all the students; 2) finding appropriate placement centers so they would be teaching stations instead of work stations; 3) finding adequate time for class preparation and personal conferences; 4) getting each student to work up to his capabilities in the classroom; 5) record keeping by students in their supervised occupational experience program; 6) providing satisfactory supervised occupational experience programs for those who do not have facilities for productive enterprises; 7) lack of time to conduct an effective adult and young farmer program; 8) getting students to participate in state or national F.F.A. awards and activities; 9) finding adequate floor space to carry out all shop activities; and 10) budgeting time for a satisfying personal life.

38. MILLER, Larry Eugene, An Analysis of Attitude and Personality Changes in Prospective Vocational Teachers Resulting from Apprenticeship Programs. Ph.D., 1972. Purdue University, West Lafayette, Indiana.

Purpose. The study was designed to determine if apprenticeship programs for prospective vocational teachers will produce a change in attitude and self-actualization.

Methods. The apprenticeship programs were conducted for ten weeks during the summer of 1971 with vocational agriculture programs and programs for the disadvantaged.

Research was conducted using the personal orientation inventory to determine self-actualization and the semantic differential to measure attitude. A post test-only control group design was used with the non-participating applicants acting as the control group. Data was collected at the end of the programs with 100 percent returns on the semantic differential, but with one person refusing to respond to the personal orientation inventory.

The data were analyzed and comparisons made between the groups, using analysis of variance and the Newman-Keuls Sequential Range test. Results are given for the F-ratio and probability levels of the analysis of variance of the groups.

Findings. The Newman-Keuls test on the scales of the personal orientation inventory showed significant difference to exist between apprentices with programs for the disadvantaged and non-participating applicants, and between apprentices with programs for the disadvantaged and supervisors of programs for the disadvantaged on the Feeling Reactivity (Fr) scale at the .05 level; between supervisors and non-participating applicants on the time competence (Tc) and Time Incompetence (Ti) scales at the .05 level; and between apprentices with disadvantaged programs and apprentices with vocational agriculture programs on the Feeling Reactivity scale at the .01 level.

It has been evidenced that apprenticeship programs can elicit a change in the attitude and self-actualization of apprentices. This may indicate that additional experiences through apprenticeship programs will strengthen the preparation of vocational teachers.

Availability. The dissertation is available from the Purdue University Library, West Lafayette, directly, as well as through interlibrary loan. It is also available from University Microfilms.

39. NIKSCH, Charles T., Secondary Agricultural Occupations Programs in Southern Illinois for Students with Special Needs. M.S. Report, 1972. Southern Illinois University, Carbondale.

Purpose. The purpose of this study was to determine the numbers of high school students in Southern Illinois enrolled in agriculture and classed as disadvantaged, and the kinds of programs that have been designed for them.

Method. Eighty-nine secondary agricultural occupations instructors in Illinois District Five served as the population for this study. The questionnaire consisted of brief data about the instructors, 1970-71 courses taught, criteria for selecting students, starting special needs classes, and special teaching techniques.

Findings. Forty-two teachers responded and of this number only five provided some kind of a program especially for students with special needs. Little difference existed between school size and whether special needs classes were taught, nor was there much difference between the size of the agricultural occupations Department and special needs classes even though departmental enrollments ranged from 26 to 213.

Eleven schools used some kind of criteria to identify disadvantaged students. The agricultural occupations instructor and the guidance counselor shared the main responsibility for identifying disadvantaged students.

The prime motivating force influencing a high school's decision to start a special needs class was the 1970 Illinois Vocational Education Plan, followed by the 1963 Vocational Education Act, and then the 1968 Amendments.

Individualized instruction was used by all the teachers as a teaching technique for special needs students enrolled in regular agricultural occupations classes. It was followed closely by filmstrips and slides, and then films.

Of time spent on learning experiences for special needs classes, 68 percent was devoted to agricultural mechanics. Classroom instruction was used 21 percent of the time with other learning experiences used much less frequently.

Availability. This thesis is on file in the Agricultural Industries Department library and is available upon request.

40. OGLESBY, James R., An Analysis of Benefits Accruing to MDTA Trainees in Selected Urban Training Centers. Dissertation, 1972. University of Missouri, Columbia.

Purpose. The primary purpose of the study was to discern the extent socio-demographic factors influence earnings, and to ascertain whether such factors were related to benefits associated with institutional Manpower Training courses in selected Missouri cities.

Method. The 371 MDTA trainees used in this study were selected from 518 trainees who previously had completed institutional Manpower Training courses in St. Louis, Kansas City and Joplin, Missouri. Personal interviews were used to gather information regarding socio-demographic characteristics of trainees and their employment history. Additional data concerning the trainees were obtained from the Employment Security Office, the State Department of Education, State Division of Welfare and local schools.

The dependent variables this study attempted to explain were measures of labor market performance: (1) total before tax earnings (exclusive of fringe benefits) in the eighteen-month period following the end of training, and (2) benefits (earnings eighteen months after training minus earnings prior to training).

The independent variables which conceptually appear to influence the dependent variables were both categorical or dichotomous and continuous. The following independent variables were used in the analysis: (1) age, (2) sex, (3) race, (4) marital status, (5) Training Centers, (6) job relatedness, (7) length of training, (8) number of dependents, (9) total training cost, (10) prior labor force experience, (11) place of residence before age eighteen, and (12) General Aptitude Test Battery (GATB) scores.

Multiple regression techniques were used to examine the net relationship between the aforementioned variables and benefits associated with training.

Findings.

1. The trainees in the MDTA courses were above average in education and work experience as compared to the general population of unemployed workers.

2. To fulfill the requirements of the Manpower Development and Training Act of 1962, it was concluded that the results of this investigation would enable decision making toward training the hard-core unemployed.

3. Sixty-five percent of the trainees were employed in jobs unrelated to their training.

4. Trainees received negative benefits six months following.

5. Age, sex, number of dependents, labor market area, and prior labor force experience were major factors associated with benefits received from training.

6. The coefficient of multiple determination (R^2) for each model decreased as time following training increased. This indicated the possibility that variables other than age, sex, number of dependents, labor market area, and prior labor force experience were affecting benefits received from training.

41. PETERSON, Glenn H., A Descriptive Study of Cooperative Vocational Education Programs in Southern Illinois. M.S. Report, 1972. Southern Illinois University, Carbondale.

Purpose. The purpose of this study was to compile and evaluate data relative to existing cooperative vocational education programs in Southern Illinois high schools.

Method. A questionnaire organized into four subtopics (a) school and community, (b) organization of programs, (c) cooperative program, and (d) program coordinator was sent to 100 secondary schools in the Southern 35 counties of Illinois. Thirty-six responded.

Findings. Only 22 percent of the schools reporting offered cooperative programs in all five vocational areas. Forty-eight percent offered cooperative business programs, 33 percent agriculture programs, 33 percent personal and public services programs, and 25.9 percent offered industrial education programs.

Prior to beginning their program 80.8 percent made a business survey, 61.5 percent administered a student survey, and 30.8 percent surveyed the faculty.

Advisory committees were used by 77.8 percent of the schools. Two-thirds of the schools had only one overall advisory committee, and one-third had an advisory committee for each of the vocational areas. These committees met at various intervals, with three months the most frequently reported.

Only 11.6 percent of the schools had full-time coordinators. Over 90 percent of the coordinators taught a related class. About two-thirds of the coordinators spent from one and one-half to three hours per month on supervision. Approximately 70 percent of the coordinators spent time beyond the regular school day on their jobs.

Students in the great majority of cooperative programs, 92.6 percent, received two units of credit per year. Fifty-eight percent of the schools required a "C" average of a student before he was permitted to enter the program, the others had no grade point requirements. The method of one-half day in school and one-half day on the job was used by 92.6 percent of the schools for their students. Only 61.5 percent of the schools had a training plan for each student. In about three-fourths of the schools, evaluation of the student-trainee was done by the coordinator and the employer. Data showed 89 percent of the schools made follow-up studies. These studies showed that 63.6 percent of the previous years graduates from the cooperative work-experience programs were employed in their chosen career.

This thesis is on file in the Agricultural Industries Department library and is available upon request.

42. POHLMAN, Charles Max, Employment Opportunities in Retail Agricultural Machinery Distribution in Iowa. Thesis, M.S., 1972. Library, Iowa State University, Ames.

Purpose. To determine the present and anticipated employment needs of the retail agricultural machinery industry in Iowa.

Method. A proportionate random sample of agricultural machinery dealerships was drawn from each economic area to comprise the state sample. Additional samplings were made within each of the economic areas to provide equal representation from each economic area for comparison by economic area. Data regarding present and anticipated employment trends was provided through the use of surveys mailed to each of the selected dealerships.

Findings. The mean number of employees in each dealership increased from 5.9 in 1966 to 7.83 in 1971 and was expected to increase to 9.65 by 1976. The number of part-time employees in the state increased from 73 in 1966 to 101 in 1971, and by 1976 it was anticipated that there would be 130 part-time employees. Dealerships in all economic areas expected increases in the number of employees in all occupational groups in 1971 and 1976 except for managers. The number of sales and departmental managers were expected to increase more than other occupational groups.

Although the mean number of employees in the dealership samples were expected to increase by 1976, it was evident that there would be a substantial decrease in the number of dealerships by 1976. The reduction in number of dealerships constituted a decline of 36.6 percent of the present number of dealerships. It was anticipated that by 1976 there would be approximately 528 dealerships employing 5,076 employees, 337 fewer employees than were employed in the 685 dealerships in existence in 1971. The only occupational groups showing projected increases in light of the decline in number of dealerships were the sales and departmental manager groups.

43. REEVES, Wade H., Church-Related Programs in Agricultural Education in Cameroun and Uganda, Africa. Dissertation, Ph.D., 1972. Library, The Ohio State University, Columbus.

Purpose. To describe projects that have been initiated by Christian churches and missions in Cameroun, West Africa, and Uganda, East Africa, to teach agricultural methods, stimulate development and generate employment in the agricultural sector. The narrative descriptions were undertaken to serve as a source of information for those who are actively involved in such projects as an instrument to facilitate evaluation and as a basis for the planning of new projects.

Method. The information used to compile the project descriptions was obtained through visits of the writer to the projects and through the administration of a "Guide" the purpose of which was to suggest subjects upon which information could be provided in order to permit adequate descriptions to be made. Projects described include those using a pure extension approach, farm-schools, resettlement schemes and those teaching agricultural subjects and methods at the secondary school level.

Findings. Among projects, there are marked similarities in goals, emphasis of instruction, services provided and problems. All projects share the goals of working to make life in rural areas less tedious, more healthful and more productive. They also recognize the seriousness of the school-leaver problem and devote at least a part of their program to the solution of this problem. Other factors held in common by all projects include governmental approval and support, large audiences, success in attracting educated young people to vocations in agriculture and success in introducing new technology related to agriculture and rural life.

The following guidelines for the establishment of agricultural projects such as those described were developed:

1. The services of an advisory committee, composed of representatives of government, church and clientele, should be used in the planning, development and operation of projects.

2. Goals and objectives set for projects should be realistically attainable in light of available resources.

3. Evaluation procedures should be included as an integral part of project planning, development and operation in order to provide a means by which progress towards goals and objectives may be measured.

4. The introduction of new technology of whatever kind, whether crops, materials or methods, should be preceded by a careful study of the conditions of production, marketing possibilities, and nutritional and cultural considerations.

5. Training provided by projects should be practical, on-the-job training.

6. Training should result in higher than average farming incomes.

7. Provision should be made for the capitalization of former trainees either by extending credit to them or by some other means.

8. Follow-up procedures, designed to provide former trainees with technical assistance, assistance with marketing and the procurement of supplies, should be an integral part of any project.

9. Provision should be made by every project for the writing and dissemination of reports, articles and reviews, as a means of sharing information with those who would find such information interesting, useful and helpful.

44. REID, Richard Alma, Guidelines for Evaluation Activities Conducted by State Advisory Councils for Vocational and Technical Education. Dissertation, Ph.D., 1972. Library, The Ohio State University, Columbus.

Purpose. To develop guidelines to be used by state advisory councils in performing their evaluation role. The specific objectives of the study were: (1) to determine administrative relationship between state advisory councils and state boards for vocational education and state directors of vocational education; (2) to identify the evaluation role as perceived by state advisory councils; (3) to identify the evaluation activities of state councils in evaluating vocational programs and the state plan for vocational education; (4) to identify and assess the evaluation plans used by state advisory councils; (5) to identify criteria used by state councils in evaluating vocational programs and state plans for vocational education; (6) to determine the extent to which advisory councils are publishing and distributing evaluation results and other information; and (7) to identify the persons or agencies responsible for conducting and interpreting state council evaluation studies.

Method. The state director of vocational education, the state advisory council chairman, the advisory council executive director in each of the fifty states, Puerto Rico, and the District of Columbia were asked to respond to mailed questionnaires. Independent questionnaires designed to collect data from the three population segments resulted in an eighty-five percent response.

Findings. Thirty-seven states had advisory councils prior to the Vocational Amendment of 1968. After the Amendment of 1968 mandated a new and separate council, 94 percent of the states complied by the end of 1969. State directors were in attendance at most state advisory council meetings on invitation. The council perceived their evaluation role to be statewide in nature, representing the public as consumers of

vocational education. Seventy-seven percent of the councils had evaluation committees. Two-thirds of the councils had written evaluation plans covering one year, but only one-fourth had a two or five-year plan. The councils reported data, money, people, and time as being their major problems encountered in evaluation. Most evaluations were conducted by the councils themselves and the state department of vocational education provided the council with much of their information. Twenty-eight percent of the councils had developed their own evaluation plan.

The following conclusions were finalized from the study: (1) a large majority of the councils had developed a satisfactory relationship with the state boards and state departments of vocational education; (2) the councils perceived their role as representing the general public in assessing the effectiveness and accessability of all types of public vocational education; (3) the councils' evaluation activities included the holding of public hearings, reviewing all available evaluation studies, contracting for additional studies when needed, and developing recommendations for the improvement of vocational education programs; (4) the councils were using unsophisticated evaluation models; (5) most councils were developing their own individual plan for evaluation; (6) student placement and program availability were major evaluation criteria; (7) the councils were disseminating their evaluation findings to vocational educators and the general public through council publications, primarily their annual report; (8) councils were performing a good share of their own evaluations supplemented by contracted evaluations and information provided by the state departments of vocational education.

The guidelines developed and suggested for adoption by most councils in performance of their evaluation role include such issues as: (1) the improvement of vocational education; (2) the evaluation of state plans; (3) checking for the implementation of vocational acts; (4) advisory councils as independent evaluators; (5) development of council staffs knowledgeable in evaluation; (6) the development of a formal evaluation plan by council; (7) establishment of evaluation criteria; (8) providing opportunities for councils to discuss and exchange ideas on evaluation procedures; (9) utilization of council members expertise; (10) development and use of evaluation systems; (11) securing contractual evaluation services; (12) the utilization of related evaluation studies; (13) cooperative evaluation efforts; (14) collection of data for evaluation; (15) submission of recommendations which are measureable; (16) recommendations concerning all vocational education; and (17) publication and distribution of evaluation findings.

45. RETHEMEIER, Arnold George, Extent and Method of Utilization of North Dakota State University Extension Bulletins, Experiment Station Bulletins, and Research Reports by Selected North Dakota Vocational Agriculture, General Science, and Biology Instructors. Colloquium Paper, M.S., 1972. North Dakota State University, Fargo.

Purpose. To determine extent and method utilization of North Dakota State University Extension Bulletins, Experiment Station Bulletins, and Research Reports by selected North Dakota vocational agriculture, general science, and biology instructors.

Methods. The writer submitted a set of three questionnaires to 63 selected vocational agriculture instructors in North Dakota. Each vocational agriculture instructor was asked to complete one questionnaire and submit one copy to a junior high school general science instructor and one copy to a high school biology instructor in his school system for completion. The questionnaire consisted of questions pertaining to the use and method of utilization of 102 North Dakota State University publications. The data were tabulated and expressed in percentages.

Findings and Interpretations. It was found that vocational agriculture instructors made much more extensive use of Extension Bulletins, Experiment Station Bulletins, and Research Reports than did general science or biology instructors. Vocational agriculture instructors used all 102 publications and 27 publications were used by more than 50 percent of the vocational agriculture instructors. General science instructors used only 20 and biology instructors used only 22 of the 102 publications. The publications most frequently used were utilized in lesson plan preparation and as a student reference in classroom teaching, while the less frequently used publications were used as an occasional reference for instructors and students. Publications dealing with plant and soil science and livestock science were those used most frequently by North Dakota instructors.

46. RICHARDSON, William D., Jr., Cost-Benefit Analysis of Vocational-Technical Education Programs in Missouri Junior Colleges. Agricultural Education Library, University of Missouri, Columbia.

Purpose. The major purposes of this study were: (1) to ascertain the per student cost of two-years of junior college vocational-technical education, (2) to determine the economic benefits of the students who had completed these vocational-technical programs, and (3) to determine the cost-benefit relationships of the vocational programs based on three investment criteria.

Method. Eight junior college districts in Missouri cooperated in the study. Cost data were estimated on seven vocational program areas

being operated by these junior college districts. The program areas analyzed were: (1) Agricultural Business and Industry, (2) Business and Office Occupations, (3) Data Processing and Computer Science, (4) Distributive Education, (5) Health Occupations, (6) Public Service Related Occupations, and (7) Trade and Industrial Occupations.

The cost data were summarized and average annual costs per program area calculated. The average annual costs were doubled to arrive at a two-year added cost of operating a junior college vocational program. Monthly earnings were obtained from individuals who had completed programs during the fiscal years of 1968-69, 1969-70, and 1970-71. There were 289 usable responses from mailed questionnaires. Benefits accruing to students completing junior college education programs were determined by subtracting earnings of high school graduates from earnings of junior college graduates. Three levels of earnings of high school graduates who did not attend junior college were forecast. Multiple regression techniques were used to control for other graduate characteristics that influence earnings so as to provide an estimate of the net benefits that could be attributable to junior college vocational training. Net benefits were projected forward over the expected lifetime of graduates and discounted to the present. Investment criteria were then applied to determine the feasibility of outlays of funds for vocational education at the junior college level.

Findings. Costs among program areas ranged from $1108 to $3608 for Public Service Related Occupations and Health Occupations respectively. The weighted average cost for all programs was $1822.

Annual benefits, earnings minus earnings of high school graduates ($5000), accruing to students completing vocational education programs ranged from $320 to $4360 for Agri-Business and Public Service Related Occupations respectively. The benefits, among all schools and program areas (weighted average), were $1886.

Application of investment techniques showed all programs as favorable investments. Benefit-cost ratios ranged from 2.5 to 57.4. Rates of return to educational outlays (internal rates of return) ranged from 20 to well over 50 percent.

This study provides the administrators of vocational educational monies information and techniques necessary for decision making with respect to the optimum allocation of scarce educational resources among competing program areas. Likewise, this study provides the administrators, at all administrative levels, with information and techniques of analyses that would provide the basis of program and curriculum improvement.

47. ROHRER, John D., Factors Related to Regional Planning Commission Activity. Thesis, M.S., 1972. Library, The Ohio State University, Columbus.

Purpose. To determine the characteristics and operational conditions linked with active versus inactive regional planning commissions in the counties of Ohio.

Method. Members of regional planning commissions were interviewed in 10 commissions chosen at random from a population of 37 commissions.

Findings. The most active commissions were significantly different from the least active commissions in the following: greater number of political officials serving on the commission; greater number of leaders reportedly opposed to the commission; greater number of members on the commission; greater number of committees used by the commission; greater number of years of commission work; greater overall population increase in the county from 1960 to 1970; less positive attitude toward the commission and its role in the community; and lower percentage of members attending educational sessions on the role of the commission member.

There were no significant differences between the active and inactive regional planning commissions in: the number of community problems thought solvable or the number of years needed to solve the problem; the type of problems the commission should have a major role in problem solving; the number of influential leaders serving on the commission; the tenure of the commission members; the percentage of attendance of regular meetings of the commission; the number of members reporting internal problems in the commission; the commission representation -- urban versus rural; and the number of educational sessions attended on the role of the commission member.

The greatest need of regional planning commissions is more education for all citizens on planning and the planning commission with an attempt to involve more citizens in the planning process. The greatest strength of the commission is that it provides a framework to unify efforts of local government and foster cooperation.

48. ROSE, William James, An Analytical Study of Farmers' Characteristics in Relation to Their Use of Herbicides in a Three County Area in Missouri. Dissertation Ed.D., 1971. University of Missouri, Columbia.

Purpose. The main purpose of the study was to ascertain the personal characteristics of 60 randomly selected farmers in Henry, Johnson, and Lafayette Counties in west central Missouri, and to determine the relationships of those characteristics with their knowledge of weeds, use of herbicides, equipment, and safety practices in weed control. The personal

characteristics used as independent variables were: age, educational background, size of farming operation, level of net income, tenure of operation, and present occupational status. Also investigated were sources of information about herbicides, which subject matter areas farmers rated as important, as well as possible interest of the farmers in evening classes on herbicides.

Method. The investigator developed a survey instrument designed to delineate the personal attributes of selected farmers and to record responses to certain criterion variables considered to be essential to the development of correct application of herbicides.

Twenty farmers from each county were contacted and interviews were arranged so that a total of 60 subjects were finally personally surveyed by the investigator. The interview was made using 2 x 2 slide pictures of ten weeds and five herbicides which the respondent was asked to identify as well as to respond to questions relating to weed and herbicide characteristics. The interview was conducted in a pick-up truck camper equipped with a 500 watt Tripp-Lite inverter to convert direct current of the truck battery to alternating current which powered a 300-watt slide projector.

Six research hypotheses in the null form were established and tested using multiple regression analysis to determine any correlation between the six predictor (independent) variables and the dependent variables.

Findings. Farmers with more years of school ranked significantly higher on the section of the survey instrument dealing with knowledge of weeds. There was also a strong correlation with level of net income.

A good knowledge of herbicides had a significant correlation with the educational background of these farmers as well as their level of net income. Also a strong factor in the overall knowledge of herbicides was the status of being both an owner and operator of a farm.

There was no significant relationship between the six predictor variables and the use of selected herbicides by the farmers contacted in this survey.

There was no significant relationship between the independent variables and the use of sources of information, which included: herbicide dealer, herbicide salesman, extension specialist, vocational agriculture teacher, neighbor, M. U. Guide, and farm magazine.

There was no significant relationship between the six predictor variables and the choice of subject matter area, including: weed identification, herbicide usage, herbicide equipment, and safety procedures.

There was a significant relationship between the independent variables of age, educational background, tenure, and status and the expressed willingness to attend a class on herbicide application and use. Fully 75 percent of the farmers indicated such a desire.

Finally, this study revealed to the investigator both the great need and potential for the development of a course for adults on the correct and safe use of herbicides.

49. SANDERS, Emerson, Volunteer 4-H Leaders Working with Youth with Limited Resources in the Expanded Food and Nutrition Education Program. Dissertation, Ph.D., 1972. Library, The Ohio State University, Columbus.

Purpose. To identify effective methods to find, recruit, and select volunteer 4-H leaders who would agree to work with youth with limited resources and who will remain as leaders for one or more years. The specific objectives were to identify selected characteristics of volunteers serving youth of limited resources and to compare these characteristics of volunteers with characteristics of other adults in the same community.

Method. All volunteer 4-H leaders who were serving in limited resource areas, and other adults who were participants in the Expanded Food and Nutrition Education Programs in Ohio, were the target population. Eighty-seven volunteers, located in three counties in northeastern Ohio, were contacted by aides who were working with the Expanded Food and Nutrition Education Program within the counties. The comparison group consisted of a sample of community clientele who were not volunteer 4-H leaders, but who were cooperators with the Expanded Food and Nutrition Education Program. The data were analyzed using frequencies, percentages, t-test, F-test and chi-square.

Findings. The conclusions of the study were:

1. Volunteers are aware of constructive youth programs and will support them.

2. Volunteer 4-H leaders can be found, selected and recruited to work with youth in low income areas in organized 4-H clubs.

3. Volunteer 4-H leaders in low income areas feel they need more facilities, supplies, and equipment.

4. Low income volunteers of the Black race attained less formal education, were employed less, participated in more welfare programs, and had lower annual income than did the whites.

5. Volunteer 4-H leaders agreed to serve more readily when they were asked to serve by someone they knew.

6. Most volunteers had family members working outside the home either full or part-time, which indicated the integrity volunteers have even though they were working in poverty areas.

7. Volunteers do not rely fully on governmental programs in spite of their serving in poverty areas.

8. Most volunteers indicated they were accomplishing something important by serving as a 4-H leader.

9. The level of formal education attained by volunteer 4-H leaders is higher than non-volunteer adults in the same community.

50. SCHMITT, Gerald Henry, A Comparison of the Performance of Twenty-Two Students Who Did and Twenty-Two Students Who Did Not Study Vocational Agriculture No. 9 at the Dodge City Senior High School in 1966-67. Master's Report, M.S., 1972. Library, Kansas State University, Manhattan.

Purpose. The purpose of this study was to survey and compare the subsequent performance of the twenty-two students who did and the twenty-two students who did not study vocational agriculture No. 9 at the Dodge City Senior High School during the 1966-67 school year.

Method. Data was collected by the use of a questionnaire which contained fourteen questions which were answered by all the students who received the questionnaire. Eight additional questions were answered only by the students who had vocational agriculture No. 9. The questionnaire included information to determine the employment status, job satisfaction, adequacy of vocational agriculture education, continued education and factors which influenced their occupational selection. Each of the areas of the questionnaire were developed on a multiple choice selection basis. The student selected the answer that best fit his particular situation at the time the questionnaire was completed. The results were compiled in tabular form with the number and percentage of responses for each of the items. The percentages were used to compare the performance of the vo-ag students with the non vo-ag students.

Findings. The majority of the former vocational agriculture students stated that the training they received in the vo-ag No. 9 course was being used in their present job and they considered it useful to them in everyday living and community activities. 86.3 percent of the vo-ag students rated their vocational training as good to excellent in preparing them for their present occupations. Of the twenty-two vo-ag students who were introduced to vocational training in the vo-ag No. 9 course, 54.5 percent continued with some type of vocational training in high school, whereas only 4.6 percent of the non vo-ag students received four years of vocational training. The vo-ag students had an average of four cents per hour more than the non vo-ag students in their beginning wage. When asked to list their present wage, the vo-ag students had an average of thirteen cents more per hour than the non vo-ag student, although both groups had wage increases the first year.

The results reported that the students in both groups were satisfied or highly satisfied with their present jobs. 77.2 percent of each group had their present job one week after graduation from high school and slightly more than 50 percent of the students were employed in an occupation that was the same as or closely related to the course work that they studied in high school. 45.4 percent of the non vo-ag students had decided on their occupation before the junior year of high school, whereas only 18.2 percent of the vo-ag students had decided on their occupation by the junior year.

As a result of the study the author concluded that the students in both groups were rated nearly equal in the following areas: present employment status; satisfaction with present job; period between the end of school and the beginning of first job; relationship of present job to occupation course in high school. The vo-ag students had a higher percentage in the following areas: years of vocational course work in high school; quality of vocational training in preparation for job; beginning and ending hourly wage and considering their present job would they have enrolled in vo-ag No. 9. The non vo-ag students had a higher percentage rating for job security and for an earlier occupational choice. On the basis of three respondents the beginning and ending annual wages were higher for the non vo-ag students.

51. SEEMAN, Marlin and DILLON, Roy D., Pilot Project - Supervised Occupational Experience Program in Ornamental Horticulture. Staff Study, 1971. The Department of Agricultural Education, University of Nebraska, Lincoln.

Purpose. The Pilot Program was to plan and conduct a summer pilot course in Ornamental Horticulture in the Lincoln Schools for disadvantaged high school, junior-age students. The objectives were to (1) keep students in school, (2) provide them with marketable skills.

Method. Thirteen junior-age students were selected for participation in a summer supervised occupational experience program in ornamental horticulture. The students selected were defined as "disadvantaged" by high school counselors. Students participated in 6 hours of classroom per week pursuing individualized study materials in generally related and specifically related material, and were employed by horticulture businesses for 34 hours per week, under supervision of a businessman, and coordinated by the teacher.

Findings. (1) High school junior-age students, who are defined as academically; ethnically; socially; culturally; or economically disadvantaged, can make satisfactory progress in applying for, participating in, and adjusting to an entry-level employment situation. (2) Students in this program were able to achieve generally-related and specifically-related behaviors through the use of individualized classroom and performance oriented instruction. This was evidenced by a gain in knowledge as measured by the post-test and by performances demonstrated. (3) The teacher-coordinator played a highly

important and key role in the classroom and in the on-job coordination. His excellent rapport with students, employers, and parents contributed to the identifying and solving of problems early. (4) Students require a greater amount of individual attention both in the classroom and on the job than other employees. (5) The use of classroom instructional materials related to on-job needs contributed directly toward the student's being able to adjust to his job. (6) Employers are satisfied with work performance of students in the program and view the program as a desirable approach to exposing students to the "world of work."

52. SEVERANCE, Harold Gail, Public Supported Instruction in Agronomic Science in Iowa. Dissertation, Ph.D., 1972. Library, Iowa State University, Ames.

Purpose. To determine the content and emphasis in agronomic science instruction provided in vocational agriculture departments, county agricultural extension districts, and area vocational-technical schools in Iowa.

Method. Each economic area in Iowa was sub-divided into three divisions and five departments and five counties randomly selected from each division. A total of 75 departments, 75 counties, and all area schools that provided agricultural education programs were surveyed to determine the number of hours of instruction being provided in the area of agronomic science.

Findings. The total mean hours of instruction provided per department in agronomic science was 255.5. Nearly 75 percent of the total instruction was provided in Vo-Ag II and in small groups or through personal visitation to day school students and young and adult farmers. Classroom instruction in the secondary vo-ag program amounted to 124.2 hours; whereas, 7.4 hours were provided to young and adult farmers. Approximately 62 percent of the agronomic science instruction was provided in the units of corn and soybean production, soil fertility, weed identification and control, and soil and water conservation.

Extension personnel provided a mean of 200.7 hours of agronomic science instruction in each county in Iowa. The total instruction to youth amounted to 8.9 hours; whereas, 191.9 hours were provided to adults. Approximately 75 percent of the instruction was provided in corn and soybean production, horticulture-forestry, soil fertility, soil and water conservation, and weed identification and control.

Ten area vocational-technical schools provided agronomic science instruction. Most instruction was provided in horticulture-forestry, corn production, soil fertility, weed identification and control, landscaping, and plant growth.

53. SHEREK, George, Producers' Educational Needs in Marketing of Feeder Calves in Selected Eastern Ohio Counties. Thesis, M.S., 1972. Library, The Ohio State University, Columbus.

Purpose. To determine (1) how producers have been marketing beef feeder calves in selected Southeastern Ohio counties; (2) what changes are needed in the Ohio Approved Feeder Calf Sales that would make them more effective and acceptable for producers; and (3) what knowledge do producers have of the Ohio Approved Feeder Calf Sales.

Method. A questionnaire was mailed to 400 feeder calf producers selected at random from a composite list of 2,351 beef breeders in Perry, Muskingum, Washington, Guernsey, Monroe, Jefferson, Harrison, Morgan, Belmont, and Noble counties. A total of 146 useable questionnaires were returned.

Findings. Producers are not well-informed regarding the Ohio Approved Feeder Calf Sales. Generally, consignors live closer to Approved Sale sites than do non-consignors. More satisfaction was expressed by respondents in the Approved Sales as a market for steers than for heifers. Recommendations resulting from the study are: (1) An increased educational effort and a more extensive advertising program are needed; (2) Farm organizations, industry personnel, and the Cooperative Extension Service should coordinate their calf marketing efforts; (3) Approved Sales should accept dairy breeding; and (4) More promotional efforts should be devoted to the sale of heifers.

54. SHUMACK, Ronald Lee, Perceived Technical Ornamental Horticulture Training Adequacies and Needs of Secondary Vocational Teachers. Thesis, Ph.D., 1972. Library, Michigan State University, East Lansing.

Purpose. The primary purpose of the study was to determine the perceived adequacies of and needs for technical ornamental horticulture training for vocational agriculture teachers in Michigan. Researchers in a number of fields have shown that technical training and knowledge of subject matter are important qualities for effective teaching. This has been especially true in vocational areas.

Method. Two groups of teachers were surveyed. All teachers in secondary schools offering ornamental horticulture as a specialized course of instruction made up the first population (n=15). The second group consisted of a random sample of all vocational agriculture teachers in Michigan (n=15). A personal interview was conducted with each teacher. Fifteen industry representatives, each serving on an advisory committee for the ornamental horticulture teachers, were interviewed by telephone.

The data were analyzed by the chi-square statistic to determine tendencies to unanimity or disparity between groups on all questions. Hypotheses were tested using the multivariate and univariate analysis of variance.

Findings. Random sample teachers had been teaching longer than ornamental horticulture teachers but there was little difference in the formal education of the two groups. Ornamental horticulture teachers reported a significantly higher amount of space available for growing plants. Ornamental horticulture teachers had taken more courses in horticulture and related areas, especially botany and entomology. However, random sample teachers had taken more courses in biological science, agricultural engineering and agricultural economics. Teachers in both groups generally thought courses in horticulture, soils, botany, entomology and agricultural engineering were helpful in qualifying them to teach ornamental horticulture.

The teachers were asked if they taught 53 selected areas and if so, how qualified they felt about teaching each area. Industry representatives were asked how important it was for a teacher to be qualified to teach that area or skill. A high percentage of ornamental horticulture teachers reported they taught all the areas, while a high percentage of the random sample teachers reported teaching the competency areas and skills in only the soil science area. More ornamental horticulture teachers felt qualified to teach the areas. However, industry representatives thought it was important for teachers to be qualified in most of the areas. More ornamental horticulture teachers felt qualified to teach specialized subjects primarily in horticulture. However, there was little difference between the groups on the other areas. Teachers in both groups generally believed that additional courses in horticulture and related areas would help them become better teachers. Courses in all areas were generally considered to be more helpful by random sample teachers than by ornamental horticulture teachers. Both groups perceived the strongest need for additional training in turfgrass management, woody ornamentals and floriculture.

Teachers preferred a major in horticulture with a teaching certificate as the ideal formal education background for a teacher of ornamental horticulture.

Both groups of teachers thought a person should be required to work in an ornamental horticulture business before teaching a specialized program of ornamental horticulture. A higher percentage of ornamental horticulture teachers had worked in a related business before teaching and they thought a longer period of work experience should be required. Ornamental horticulture teachers generally agreed that work experience should be longer than six months; however, random sample teachers considered three to six months adequate.

Random sample teachers stressed that inadequate college training and lack of adequate educational facilities were the primary reasons for not teaching specialized ornamental horticulture courses. However, ornamental horticulture teachers said subject interest and local school policies were the two most important reasons for teaching ornamental horticulture as a specialized program.

Michigan State University Horticulture Department faculty members and state vocational administrators had been the most helpful of any group in the development of ornamental horticulture teachers curriculums. Generally, teachers were pleased with their students, educational facilities and instructional materials; however, most agreed that more input into the guidance of students prior to enrollment was needed.

55. SIBANDA, Ronald Isaac, A Comparative Study of the British and the United States Systems of Agricultural Education at University Level as a Basis for the Development of an Agricultural Education Model for Colleges and Universities of Africa, 1972. University of Minnesota.

Problem. There is a shortage of highly qualified Agricultural Education lecturers in Africa to train teachers of Agriculture. The African countries have, therefore, resorted to the use of expatriate lecturers whose cultural background, education systems and experiences are different from those of the people of the receiving countries. This has brought up the problem of the relevancy of the programs, curricular, and the techniques so imported from foreign cultures.

Purpose. To develop a model of Agricultural Education made up of only those items of each system and university that can be adapted to most African conditions and cultures.

Method. The study was conducted in two phases. First, information on the Agricultural Education systems of Britain, the United States and Africa was collected from documentary sources like bulletins, syllabi, prospectus, departmental and university publications, thesis, books, reports of international conferences, seminars and studies made by international organizations like the Food and Agricultural Organization of the United Nations, the Organization of Economic Cooperation and Development, and the United Nations Educational, Scientific and Cultural Organization.

The second phase was conducted through interviews with the deans of faculties of agriculture, heads of departments and professors selected for their experiences in the Agricultural conditions of developing countries.

The samples included the universities of Minnesota, Maryland, Cornell University, Ohio State University in the United States; the universities of Nottingham, Bath, Newcastle-upon-Tyne, Wye College, University of Wales Aberystwyth, and the University of North Wales Bangor in Britain; Makerere University, Alem Maya Agricultural College, Haile Sellassie I University in Africa. Items compared included entrance qualifications, curricula, required natural sciences, technical and professional courses, practical experiences and graduate programs.

Findings. The universities of the English speaking countries of Africa are influenced by the British and United States systems of Agricultural Education.

The universities of Africa are not as autonomous as the universities of Britain and the United States whose systems they are emulating. The Agricultural Extension Services are the responsibilities of the ministries of Agriculture. This splitting of the functions of the faculties of Agriculture causes problems.

African countries need more general Agricultural Education degrees and less specialization at their present level of development.

The construction of the curricula of Agricultural Education programs in Africa should follow a thorough study of local cultures, traditional practices, level of development, environmental conditions, manpower and capital needs.

Availability of aid from one country should not be the only criterion that determines which Agricultural Education system a developing country should adopt. Those giving aid in the form of services should be prepared to borrow adaptable items and experts from other systems.

African countries should send a few indigenous people abroad to train as highly qualified program and curriculum development specialists who will play leading roles in the development of their countries' education systems.

African countries should not measure the quality and success of their Agricultural Education programs solely in terms of foreign values but on the relevancy and effect the programs have in improving the lives of local people. This means that they must tackle their problems from the grassroots.

The Agricultural Education programs must be based on sound scientific, technical and practical agriculture background.

Only university graduates in Agricultural Education must teach high school agriculture just as other high school departments use university graduates to teach their respective subjects.

Agricultural Education should be a department within the faculty of agriculture while maintaining links with the faculty of education.

56. SINGH, Raghbir, A Behavioral Contingency Theory of Adoption and Diffusion of Agricultural Technology in Less Developed Countries, Ph.D. Thesis, 1972. University of Wisconsin, Madison.

Purpose. The major purpose of this study was to formulate a behavioral theory of adoption and diffusion of agricultural technology in less developed countries. Two main considerations were emphasized as to reasons for undertaking the study: (i) efforts in the development of an integrated diffusion theory lagged behind accomplishments in empirical research and (ii) the existing diffusion model did not adequately explain innovation adoption behavior of farmers in less developed countries; nor could it be satisfactorily used as a guiding framework for policy and program development. The specific objectives of the study were: (i) to examine and present evidence as to the need for a large and rapid technological transformation of agriculture in less developed countries, (ii) to critically review existing research and theoretical knowledge concerning adoption and diffusion of agricultural innovations, and (iii) to develop an alternative theory which could provide a better understanding of the problem and make it amenable to systematic policy oriented research.

Method. The study was limited to only such less developed countries where innovation adoption decisions were made by individual farmers. The analytical approach was strongly multidisciplinary. Kaplan's notion of pattern theories was used as a criteria for formalizing the structure of alternative theory.

Findings. From a critical review of the existing diffusion model, 14 major weaknesses were identified to provide a rationale for an alternative approach. The attempts to comprehend the problem of agricultural innovativeness within the sub-culture-of-peasantry thesis or within a communications framework only, were shown to constitute distorted perspectives. Among other weaknesses highlighted were: (i) a strain to develop a general theory of innovativeness without first strengthening more specific domain theories, (ii) definition of the problem of innovativeness mainly in terms of a search for situationally nonspecific character traits; (iii) relative neglect of institutional factors and contingencies in farmers' decision environment; (iv) inadequate consideration of learning and decision theories and consequent failure to take into account such important variables as perceptions, risk, uncertainty and incentives in a more robust framework; (v) a static interpretation of adoption decision process and (vi) limited usefulness of existing knowledge because much of it was based on correlational evidence only.

The study made the suggestion that diffusion research might be usefully bifurcated into (i) a "fundamental" research orientation to study, in depth, the variable of innovativeness by using theoretical perspectives of creativity and problem solving behavior and (ii) an "applied" research orientation to focus mainly on practice adoption behavior and serve as strong feedback to research and development agencies. The alternative theory of adoption of agricultural innovations was structured by using the S-O-R paradigm in behavioral psychology and included postulates which were directly relevant to the understanding of innovation adoption decisions. The relational logic underlying the theory was based on the mathematical notion of functions. A number of specific policy oriented models were also identified as an integral part of the theory. The adoption decision process was reformulated

with an explicit dynamic rationale and with the possibility of being operationalized as a Markov chain process. The study also briefly dealt with the broad framework within which fundamental research on innovativeness might be pursued.

In conclusion, the study only claimed to have yielded a plausible, first stage semi-formal theory of innovation adoption behavior in agriculture.

57. SPONAUGLE, Adam Junior, Attitudes of Guidance Counselors Regarding Vocational Education. Dissertation, Ph.D., 1972. Library, The Ohio State University, Columbus.

Purpose. To identify and describe the attitudes of guidance counselors regarding the value and importance of vocational education in the secondary schools of Ohio. A secondary purpose was to investigate the relationship between guidance counselors' attitudes regarding vocational education and the following factors: (1) type of school, (2) sex of guidance counselor, (3) age, (4) years and type of non-educational occupational experience, (5) membership or non-membership in professional educational associations, (6) full or part-time devoted to guidance and counseling, (7) years of experience as a guidance counselor, (8) had or had not completed high school vocational education courses, (9) quarter hours of credit in occupational guidance courses and (10) quarter hours of credit in vocational education courses.

Method. A stratified random sample of 395 guidance counselors was selected from 1,155 secondary schools in Ohio. The population of schools was stratified into the following four categories: joint vocational schools, schools served by joint vocational schools, schools not served by joint vocational schools and metropolitan schools. An instrument involving a Likert scale was developed to assess the attitudes of guidance counselors regarding vocational education. Data were collected by mail questionnaire; 97.5 percent of the guidance counselors returned questionnaires. Statistical techniques used in analyzing the data included the t-test, one-way analysis of variance, product-moment correlation, point-biserial correlation and chi-square.

Findings. The findings revealed that guidance counselors in Ohio's public schools are generally favorable toward vocational education. Guidance counselors in joint vocational schools are more favorable toward vocational education than guidance counselors in schools served by joint vocational schools, schools not served by joint vocational schools and metropolitan schools. There were no significant differences in guidance counselors' attitudes toward vocational education in the last three school categories.

There was a significant positive relationship between the attitudes of guidance counselors regarding vocational education and the following

factors: (1) number of years of non-educational occupational experience, (2) membership in professional associations and (3) completion of high school vocational courses. There was no significant relationship between the attitudes of guidance counselors regarding vocational education and the factors age, sex, type of non-educational occupational experience, time devoted to guidance and counseling activities, number of years of experience as a guidance counselor and quarter hours credit in occupational guidance or vocational education courses.

58. STEWART, Bob R., RICHARDSON, William B., and PRY, Harry W., Time Allocation Study of Selected Vocational Agriculture Departments in Missouri Public Schools. Staff Study, 1972. University of Missouri, Columbia.

Purpose. To obtain information concerning time allocations in vocational agriculture as perceived by vocational agriculture teachers and superintendents. Emphasis was placed on the time available for conducting the activities of the vocational agriculture program. The study provided information relative to program expansion and the assignment of priorities in specific areas of vocational education in agriculture.

Method. The data used in this study were collected from questionnaires sent to the 40 superintendents and the 40 vocational agriculture teachers working in schools randomly selected from the Missouri public secondary schools containing one teacher vocational agriculture departments.

Findings and Interpretations. All respondents perceived that instruction in production agriculture is needed. However, additional time and/or personnel are needed to expand the program offerings to include agricultural sales and services, horticulture, conservation, and programs for adults. Teachers felt that they needed additional time to do supplementary instructional activities such as maintaining files, arranging field trips, preparing bulletin boards, and arranging for instructional laboratory experience.

Administrators felt that teachers needed additional time to prepare bulletin boards and arrange instructional laboratories. Approximately one-third of the administrators questioned the time involvement of the vocational agriculture instructor in junior high exploration and elementary guidance programs. However, they felt that teachers needed additional time to devote to guidance at the secondary level.

Teachers felt that more time is needed to supervise occupational experience programs both on and off the farm and during the summer. Teachers and administrators felt additional time is needed to develop courses during the summer and to organize teaching materials. Superintendents felt additional time needs to be devoted to off-farm occupational experience programs.

There is sufficient evidence to conclude that a close relationship does exist between teachers and superintendents perception of time that is devoted to the various program activities and the time that should be devoted to various program acitivites.

59. STITT, Thomas R., Preliminary Report on Vocational Education in the Multipurpose High School System of Nepal. Southern Illinois University, Carbondale.

Abstract. This report evaluates the vocational education programs of selected multipurpose high schools in Nepal and makes recommendations for their continued development. The report also provides assistance to the schools' supervisory staff in developing an evaluation instrument, building an information system, and gaining field experience in the gathering of data. The interview forms are included.

60. THOMAS, George Leslie, Job and Educational Status of Perham, Minnesota High School Graduates of 1966, 1968, and 1970. Colloquium Paper, M.S., 1972. North Dakota State University, Fargo.

Purpose. To determine post secondary job and educational experiences of Perham, Minnesota, High School graduates in classes of 1966, 1968, and 1970.

Method. The names of the 392 graduates included in the study were obtained from the records in the office of the principal. Current mailing addresses of graduates were received by means of telephone calls and personal contacts with parents, relatives, and friends. A questionnaire, relative to the objectives of this study was constructed and mailed to the graduates. In approximately three weeks graduates not responding were contacted by telephone, personally or by means of a second letter and urged to return the questionnaire. There were 314 graduates who responded representing an 80.1 percent return.

Findings and Interpretations. More than 75 percent of the graduates had first job experiences within the areas of distributive occupations, agricultural occupations, office occupations, and trade and industry occupations. Almost two-thirds of the graduates were presently employed within the areas of trade and industry, agricultural occupations, office occupations, distributive occupations, and health occupations. Nearly 80 percent of the graduates were either enrolled in or had completed a formal education program beyond high school. Almost 25 percent were either enrolled in or had completed a program offered by a four-year college. Over 17 percent had completed or were enrolled in vocational-technical institute programs. Almost 90 percent

of the graduates had first job experiences within the occupational areas encompassed by the Vocational Education Acts of 1963. Ninety-four percent of the graduates employed for a wage in the civilian labor force had jobs which required less than a baccalaureate degree. Excluding graduates in armed service schools, over 40% of the remaining post-secondary educational experiences were of a vocational nature.

61. THOMPSON, John F. A Profile of Students 1971-72. Pilot Program Report No. 7, Staff Study, 1972, University of Wisconsin, Madison.

Purpose. The purpose of this study was to evaluate the student characteristics for those enrolling in our Vo-Ag Pilot Agribusiness Program.

Method. A questionnaire was sent to the 14 schools in the fall of 1971. The local vo-ag teacher administered the questionnaire to all the juniors and seniors enrolled in his program. Data were collected on 312 students.

Findings.

1. Non-farm students comprise two-thirds of the students enrolled in pilot programs. This figure is down slightly from last year when they make up 72 percent of the total enrollees.

2. The majority of the students have only recently become interested in vocational agriculture. Sixty-seven percent of the students enrolled are taking vocational agriculture for the first time. This is the first year that the majority of the enrollees are new to agriculture courses. Again, this is the influence of the unusually large enrollment in the new program at Middleton.

3. Farm students make higher school grades in the pilot program courses than do non-farm students.

4. The typical student reports average grades in academic courses and average grades in vocational agriculture. The above average student in vocational agriculture is more likely to be average than above average in academic courses.

5. A higher percent of students with extensive experiences in agriculture are farm residents. This is a sharp shift from last year when non-farm students reported a higher percent but about the same as the first two years of the pilot programs.

6. Students reported less extra curricular activity than in past years. One student in four participated in both school and community organizations compared to one in three last year. Students confining their participation to school organizations comprised 43 percent of the total.

7. Farm youth participate in extra-curricular activities more intensively than do non-farm students.

8. Seventy-five percent of the students enrolled in the pilot programs for exploratory reasons. This is an increase over previous years when about 60 percent enrolled for these reasons.

9. Once enrolled, 79 percent of the students express exploratory reasons as their personal objectives for the pilot program. This is a higher percent than was reported in any of the prior three years. The percentage of farm students choosing the pilot program for exploratory reasons has increased steadily over the four year period. The number of non-farm students enrolling for definite career objectives has dropped sharply after a steady increase during the first three years of the program.

10. Students at the age and grade level studied were aware of the need to decide on an occupation. Their desire to enroll in the pilot program to explore an occupational area was the result of that awareness, and thus the pilot programs are serving student needs.

11. Student career aspirations were higher than their expectations. Thirty-six percent of the students aspired to a career in agriculture and 31 percent expect to attain the same level of socio-economic job that they aspire to. The aspiration and expectation level of farm students is closer than is the non-farm group.

12. Forty-five percent of the students in the pilot programs had limited their plans to a related cluster of occupations.

13. Over the four year period there has been a general decline in the vocational maturity score of students attracted to the pilot programs. Farm students showed higher vocational maturity scores than did their non-farm counterparts. The students that are attracted to these special junior-senior year courses represent a wide spectrum of the phases and stages of the vocational developmental process.

62. THOMPSON, John F., A follow-up of the June 1971 Pilot Program Graduates. Pilot Program Report No. 8. Self Study, 1972. University of Wisconsin, Madison.

Purpose. The purpose of this study was to follow up the 1971 pilot program graduates to discover (1) status, (2) job history,

(3) perception of preparation, (4) job success, and (5) vocational maturity.

Method. A questionnaire was sent directly to the graduate in December, 1971, six months after graduation. Data were gathered on 113 of 198 students.

Findings.

1. Eleven percent of the 1971 graduates were in the military service six months after high school graduation.

2. The two largest schools (Janesville and Green Bay) had a higher percent of graduates attending post high school educational institutions than did the smaller schools.

3. The majority of the graduates (55 percent) were employed. Another 39 percent were enrolled for post high school education. Non-farm students sought post high school education slightly more often than did farm students.

4. Graduates who had above average grades in academic or vocational agriculture courses were much more likely to pursue post high school studies than those with average or below average grades.

5. Those graduates who had enrolled in the courses for exploratory reasons had a tendency to seek employment after high school graduation.

6. Of those graduates who entered college, 36 percent were majoring in agriculture at the time of this follow-up.

7. Most graduates had an educational status consistent with their expectations as expressed during their senior year in high school.

8. Family and friends are the sources of information about current jobs reported by the graduates.

9. Forty-two percent of the graduates were employed within two weeks after high school graduation -- a decline of 17 percent from last year. Non-farm students had a harder time finding jobs than did farm students.

10. Thirty-five percent of those persons with jobs wanted to make a career of their present job.

11. The majority of working graduates found jobs within ten miles of their high school home (67 percent). Eighteen percent of the working graduates traveled 11-50 miles to their job. This is a higher percent than last year and appears to result from a lack of jobs in the community.

12. The graduates rated four of five items concerning their high school and job experiences as fair to good in quality. These were (1) their first jobs, (2) their high school education, (3) the courses available to them, and (4) high school guidance. A fifth item, the pilot program course, was rated good to excellent. Students with a farm background

rated all five items higher than did the students with a non-farm background.

13. There was a general trend for the graduates who had the higher vocational maturity scores to express a greater degree of satisfaction with his previous educational experiences than the graduates with the lower vocational maturity scores. Those with higher scores also tended to go on to higher education rather than taking a job immediately after high school.

63. TODD, John D., and PHIPPS, Lloyd J., Relationships Among Selected Occupational Experience Programs in Secondary Schools. 1972. University of Illinois, Urbana.

Purpose. The primary purpose of the study was to determine differences and relationships among different patterns for occupational experience. Similar differences among other factors, such as enrollment of pupils by different vocational fields, number of years enrolled in vocational courses, size of community where the pupils resided, sex, and occupational objectives of the pupils were also studied.

Method. The study included 250 pupils selected as a stratified random sample of 50 pupils from each of five vocational fields. The sample consisted of five pupils from ten programs in each of the vocational fields.

Differences and relationships which existed were determined in relation to job satisfaction, school attendance, school achievement, and attitude toward preparation for the world of work. Data were collected by administering Hoppock's Job Satisfaction Blank, attitudinal inventory toward preparation for the world of work, a questionnaire, and from official school records. The vocational teachers administered the inventories.

The data were treated with a one-way analysis of variance and a t-test when appropriate. Correlations were determined by Pearson's product-moment coefficients. The Mann Whitney U test was used to determine differences between the two groups that were combined.

Findings.

1. The instruments used in the study had sufficient reliability. The reliability coefficient was greater than .80 for both methods used to test the attitudinal instrument. The Hoppock Job Satisfaction Blank had a reliability coefficient of .93.

2. Pupils who had received different occupational experiences did not differ significantly in relation to school achievement and attendance, job satisfaction, and attitude toward preparation for the world of work. Differences did exist with attitudinal statements that dealt primarily with relevancy of courses toward preparing for employment and occupational choices. Pupils who had obtained cooperative experiences gave the most unfavorable responses and differed significantly from most of the other patterns.

3. There was a significant correlation between job satisfaction and attitude toward preparation for the world of work. These two variables were also correlated for pupils who had cooperative and school laboratory occupational experiences. The correlation was higher for the pupils who had obtained school laboratory experiences.

4. There were significant differences in job satisfaction, school attendance, and attitude toward preparation for the world of work among the pupils according to their enrollment in different vocational fields. These differences did not follow a consistent pattern but those in occupational home economics showed the greatest improvement in school attendance and had the most favorable attitude toward preparation for the world of work. Pupils in vocational office education had the best job satisfaction with their occupational experiences.

5. Pupils who resided in large metropolitan areas had a more unfavorable attitude toward preparation for the world of work than those who lived in smaller communities. Their difference in attitude was significant.

6. Pupils grouped according to their occupational objectives did not differ significantly in relation to any of the variables tested.

7. The female pupils differed significantly from the males in their improvement in attendance and attitude toward preparation for the world of work.

8. Pupils enrolled in their first year in vocational education did not have as favorable of an attitude toward preparing for the world of work as those who had been enrolled for two, three, or four years. This difference was significant.

64. TREESE, William Dean, Sr., Effects of Microteaching on Attitudes, Anxieties, and Values. Ed.D. Dissertation, 1971. University of Missouri, Columbia.

Purpose. To determine if microteaching, as a teacher preparation technique, effected to teaching attitudes, anxieties, and values of

males in the same way as it did females, of elementary teachers in the same way as it did secondary teachers, and of those without teaching experience in the same way as it did those who had teaching experience.

Method. The subjects of the study were 67 college students enrolled in educational methods classes employing microteaching as a teaching technique at Northwest Missouri State College, Maryville, Missouri during the regular summer session of 1971. The sample consisted of 19 males and 48 females, 25 secondary and 42 elementary teachers, and 46 persons without teaching experience and 21 who had had teaching experience.

The Taylor Manifest Anxiety Scale, the Minnesota Teacher Attitude Inventory and the Allport Vernon Lindzey Study of Values were given as pre and post tests to the treatment which consisted of seven weeks of teaching by microteaching. Set induction, questioning of three orders, varying the stimuli, and closure were the skills taught by use of the microteaching technique during these sessions.

Analysis of variance was used to test the significance of interaction on score increase or decrease. The program used was a 2 x 3 factorial analysis using a correction factor for unequal N per cell and was done at the Computer Center, University of Missouri, Columbia.

Findings.

1. Microteaching did not cause the same attitudinal change in male students as it did in female students.

2. Preservice teachers made significant gains on attitude scores after microteaching sessions while inservice teachers' scores did not raise significantly.

3. Elementary and secondary teachers showed significant gains in attitudinal scores.

4. Male students without teaching experience, and elementary and secondary teachers without prior experience made significant gains on the attitude inventory scores.

5. Anxiety scores were reduced significantly in the female group, the preservice group, and the secondary teacher group.

6. Scores on the value scale were significantly increased in female teachers, in those teachers with experience, and in elementary teacher groups.

From this study and recognizing the limitations of it the following conclusions are inferred:

1. Male students enrolled in educational methods courses using microteaching as a teaching technique do not respond in the same manner

as females with reference to attitudes, anxieties, and values.

2. Preservice students enrolled in educational methods courses using microteaching as a teacher preparation technique do not respond in the same manner as inservice students with reference to attitudes, anxieties, and values.

3. Persons preparing or prepared to teach at the elementary level and enrolled in educational methods courses using microteaching as a teacher preparation technique do not respond in the same manner as those preparing or prepared to teach at the secondary level with reference to attitudes, anxieties, and values.

65. VAN CLEAVE, Harold Buford, Methods of Teaching Farm Power Electrical Systems. Ed.D. Dissertation, 1972. University of Missouri, Columbia.

Purpose. To ascertain the relative effect of two different methods of instruction of college level farm power electrical systems upon student achievement. One method of instruction was the conventional lecture, demonstration, and problem solving method. The other method was the lecture, demonstration, and problem solving method of instruction plus a series of slides on electrical systems narrated by the instructor and placed on audio-tape. More specifically, the study was designed to ascertain the effect of teaching methods on the high and low scholastic ability students and their (1) informational achievement, (2) psychomotor skill, and (3) preparation time for tests in farm power electrical systems.

Method. In this two group controlled experiment, each group consisted of two sections of Agriculture 22-10 Farm Power at Central Missouri State College - Warrensburg, scheduled during the fall and winter terms 1970-71. A total of forty-eight students were included in the analysis of results. The procedure followed during each of the two terms was to pretest the randomized groups, apply the treatment, and posttest to ascertain the effect of the treatment. Control variables were mechanical reasoning, scholastic aptitude, pretest, age, and previous experience in electrical systems. The initial groups were randomly assigned on all control variables. The analysis of covariance and the analysis of variance were utilized to test the principal hypotheses. A correlation study was completed on the collateral hypotheses.

The slide-tape self-instruction technique was the main difference in methods, and it consisted of two series of slides with a narrated audio-tape selected from a commercially produced series on farm power electrical systems. A posttest on informational achievement, psychomotor skill test over timing a tractor engine, and preparation time spent on tests were dependent data studied in the experiment.

Findings. Both methods of teaching farm power electrical systems resulted in considerable gain in informational achievement by the students. The study revealed that the lecture, demonstration, and problem solving method was a significantly superior method for advancing informational achievement in college farm power electrical systems over the lecture, demonstration, problem solving, plus the slide-tape self-instruction method. Neither method was significantly superior for the two levels of scholastic ability and the interaction of methods X levels when measured by informational achievement.

A superior psychomotor skill score was shown by the lecture, demonstration, problem solving, plus slide-tape self-instruction method. Neither method showed a significant difference on preparation time for the high and the low scholastic ability levels. Neither method produced significant interaction of methods X levels when measured by psychomotor skill.

Neither method of teaching resulted in a significant difference in the amount of preparation time needed for final unit tests over farm power electrical systems. Also, there was no significant difference in effects on the levels of scholastic aptitude or on the methods X levels interaction.

Since there was a significant correlation between mechanical reasoning and scholastic aptitude, either test could be used to measure aptitude for courses such as farm power where both theory and laboratory instruction is used to help students gain informational knowledge in farm electrical systems.

Older students secured higher information scores as measured by the posttest, but had little advantage in performing a psychomotor skill.

Students with considerable previous experience in electrical courses in high school, college, post high school and out of school experience including the farm and military service, do not perform significantly higher on information tests than students with little or no experience prior to a study of farm power electrical systems.

There was no significant correlation between informational achievement and psychomotor skill, nor was there significant correlation of mechanical aptitude and psychomotor skill scores.

66. VAUGHAM, William J., A Survey of Southern Illinois University School of Agriculture Graduates with Emphasis Upon Those Engaged in Farming. Southern Illinois University, Carbondale.

Purpose. To obtain information from SIU School of Agriculture alumni to improve counseling, instruction, and research in the School of Agriculture.

Method. The data for the study was obtained from two sets of questionnaires; one mailed to all SIU School of Agriculture graduates who received their B.S. degree through the year 1970, and the second to those who indicated on the first questionnaire that they were engaged in farming.

Findings. The respondents received their B.S. degrees in agriculture in the years 1947 through 1970, but because the number of respondents was increasingly larger for the later years of graduation, the mean year of graduation with a B.S. degree was 1964.9. The mean annual earnings reported by the respondents was generally higher for those with earlier years of graduation.

Mean earnings increased as higher degrees were attained. The average earnings per year reported by those graduates who had received only a B.S. degree was $10,053. Twenty-six percent of the respondents had obtained a M.S. degree, and they reported mean earnings of $11,397 annually. Six percent of the graduates had acquired a Ph.D. degree, and this group related mean annual earnings of $16,184. The average annual earnings of all respondents was $10,769.

Seventy-six percent of the respondents were salaried employees. More graduates were classified as self-employed than as partners in business.

The most frequently-mentioned suggestion for improving the curriculum was "more practical application and experience." Numerous respondents also indicated the need for more instruction in business and in agricultural engineering and mechanization.

Approximately 60 percent of all respondents predicted "good" employment opportunities in their areas of work in the future.

With regard to their reasons for choosing farming as a profession, the respondents ranked "personal goal" and "grew up in farm environment" as the two most important; these items received 135 and 128 points respectively. These items were the two most important over all primarily because of the influence of the part-time farmers; they contributed 72 points to "personal goal" and 62 to "grew up in farm environment." "Desire to live outdoor life" with 82 points and "desire to be own boss" with 79 points were the third and fourth ranking items for all respondents.

When the graduates were asked how the School of Agriculture could better help undergraduates who would be engaged in farming, they indicated that the School of Agriculture should emphasize instruction in the areas of finance and management.

Availability. This thesis is on file in the Agricultural Industries Department library and is available upon request.

67. VICE, Billy James, Variables Related to Continuing Agricultural Education in Kentucky School. Dissertation, Ph.D., 1972. The Ohio State University, Columbus.

Purpose. To investigate the relationship between the educational offerings for out-of-school persons in agriculture and selected independent variables. One major objective was to investigate the relationship between whether or not schools had teachers offering continuing education programs in agriculture and teachers' characteristics, situational variables, and perceptions of teachers, principals, and superintendents of schools. For schools providing continuing education programs in agriculture, another major objective was to investigate the relationship between the number of class sessions offered for out-of-school persons and continuing education program variables, teachers' characteristics, situational variables, and perceptions of teachers, principals and superintendents of schools.

Method. Data were obtained from a 50 percent random sample of the 169 high schools in Kentucky providing programs in agricultural education for secondary students. Of the 84 schools drawn in the sample, 46 offered a continuing education program and 38 did not have such programs. An attitude scale was developed, administered and returned by 281 (92 percent) of the teachers of agriculture, high school principals and superintendents of schools. Other variables were quantified from confidential personal information provided by teachers, key informants, a knowledge of the population, and official reports to the Kentucky Department of Education.

Findings. Seven of the variables studied had correlation coefficients significant at the 5 percent level or higher for the dependent variable, whether or not a school offered a continuing education program. The conclusions were: 1) the greater the number of teachers in the department, the greater the probability the school will offer continuing education; 2) the more the teacher feels his employment responsibilities include teaching out-of-school persons in agriculture, the more likely the school will provide continuing education opportunities; 3) the larger the number of high school classes of the teacher, the less likely the teacher in the school will offer continuing education; 4) the greater the number of high school students of a teacher, the lower the probability of a school offering continuing education; 5) the more successive years the teacher in the school had taught out-of-school persons in agriculture,

the more likely the school will be offering continuing education opportunities; 6) the school will more likely offer continuing education opportunities if the teacher was originally employed to teach continuing education courses; and 7) the greater the number of supervisory contacts with high school students, the lower the probability of a teacher in the school offering continuing education courses.

Seven of the variables studied had correlation coefficients significant at the 5 percent level or higher for the dependent variable, the number of class sessions offered by a teacher in the schools providing continuing education courses. The conclusions were: 1) the more years of teaching experience of the teacher, the greater the probability of a higher number of continuing education class sessions; 2) the higher the average aggregate attendance of enrollees for a continuing education course, the higher the number of continuing education class sessions that will be offered; 3) the greater the age of the teacher, the higher the probability of his offering a larger number of continuing education class sessions; 4) the more years of teaching experience in agricultural education, the more continuing education class sessions likely to be offered; 5) the persons enrolled in student teaching the spring semester will more likely be offering continuing education opportunities -- once employed; 6) the more years a teacher had taught continuing education, the more likely he will be doing so; and 7) the higher the maximum amount of income a teacher could receive from teaching a continuing education course, the greater the probability of a higher number of class sessions.

68. VRIEZE, Clifford D., A Feasibility Study of a Secondary Cooperative Vocational Area Including the Elgin, Wabasha, and Plainview School Districts. Colloquium Paper, M. A., 1972. University of Minnesota, St. Paul.

Purpose. With the advent of secondary vocational education centers in Minnesota, the study was made to determine if such a center was feasible for the specific school districts of Wabasha, Elgin-Millville, and Plainview. The study was limited to physically definable aspects such as miles, student numbers interested in various proposed courses, facility size and availability, faculty numbers, and financial ability to pay. The study was intended to provide a systematic methodology for other public schools to follow in ascertaining the feasibility of such a vocational center concept for their area.

Method. The number of students interested in twenty four vocational courses from 597 ninth, tenth, and eleventh grade students was the most important data collected. Additional information about the individual school's was collected including student numbers in K-14, mileages, school district financial information, size and availability of facilities, and faculty availability by vocational area. The data was then objectively analyzed and compiled to determine the feasibility of the three school vocational center. From that analysis two alternative vocational center organizational plans were compiled based upon the data.

Findings. The study found that the three school vocational center of Wabasha, Plainview, and Elgin-Millville was feasible if properly developed and carefully implemented. But the inherent deterent to success was the miles between Wabasha and Plainview (where the vast majority of proper facilities were existant) posed an inherent high busing costs and student educational time loss for the Wabasha school and students.

Student interest when totaled for all schools in the twenty four vocational course offerings was relatively high. Adequate student enrollment interest was present to warrant offering most of the courses even if only Plainview and Elgin-Millville were to cooperate.

Therefore with almost adequate Plainview facilities and student interest coupled with the additional Elgin-Millville students the two school cooperative effort was recommended by the writer as more feasible primarily due to fewer miles between the schools and the location of facilities.

69. WARD, Ted Durst, Public Supported Instruction in Economics of Farm Business Management in Iowa. Dissertation, Ph.D., 1972. Library, Iowa State University, Ames.

Purpose. To determine content and emphasis placed on identified units of instruction in the economics of farm business management by personnel in public supported institutions of Iowa.

Method. Each of the five economic areas in Iowa were divided into three substrata. Five vocational agriculture departments, five counties, and all post-secondary area schools that provided farm business management programs were surveyed to determine the number of hours of instruction being provided by each program in the area of farm business management.

Findings. The mean hours of instruction provided by vocational agriculture instructors in economics of farm business management was 197.4. The total hours of instruction provided by secondary programs was 126.2 hours. The five units that provided the most hours of instruction were: records and record analysis, marketing, machinery management, farm credit, and planning the farm business.

The mean hours of instruction provided by county cooperative extension directors in economics of farm business management was 100.0 hours. A mean of 97.6 hours of instruction was provided to adults, whereas youth were provided with a mean of 2.4 hours of instruction. Those units in which most instruction was provided were: planning the farm business, records and record analysis, and marketing.

Nine of the post-secondary area schools provided 5,669 hours of instruction in economics of farm business management. The instructional units most emphasized were: records and record analysis, marketing, planning the farm business, farm credit, and planning the cropping system.

70. WEISER, Donald P., Individual Instruction for Employees of Commercial Fertilizer Distribution and Combine Maintenance and Adjustment at the Valley Heights High School. Master's Report, M.S., 1972. Library, Kansas State University, Manhattan.

Purpose. This study was designed to compare individualized and conventional group instructional methods for the preparation of personnel for employment in Commercial Fertilizer Distribution and Combine Maintenance and Adjustment areas of agricultural related occupations. Two individualized programmed manuals were developed with the assistance of Dr. James Albracht and Prof. Paul Stevenson, both of Kansas State University. The manuals were in the areas of Commercial Fertilizer Distribution and Combine Maintenance and Adjustment.

Method. Two groups consisting of the vocational agriculture III and the vocational agriculture IV class members were used, neither of which had studied in the two areas, and each group was involved in both methods of teaching. The teaching methods were reversed for the two groups in the second part of the study on Combine Maintenance and Adjustment.

Information concerning the background and abilities of the vocational agriculture III and the vocational agriculture IV class members was tabulated into six areas. The six areas were Verbal I.Q., Mechanical Aptitude Percentile, Overall Grade Point Average, Vocational Agriculture Grade Point Average, Biology Grade, and Size of the Home Farm. It was found there was little difference in the average scores between the two groups in background and abilities except in mechanical aptitude average percentile and in the size of the home farm. The vocational agriculture IV class members had an average test score of 65 percentile and the vocational agriculture III class members had an average test score of 37.50 percentile. The vocational agriculture III class members come from farms averaging 591.6 acres and the vocational agriculture IV class members come from farms averaging 461.6 acres.

A pre-test of fifty objective type questions was administered to each class member to measure the entry level of knowledge in each of the two areas. A post-test of the same fifty objective type questions was administered to each class member to measure the level of knowledge at the end of forty hours of instruction in each study area. The average scores and the average differences were then determined.

Findings. The first part of the study which compared teaching methods was in the area of Commercial Fertilizer Distribution. The vocational agriculture III class members used the individualized method of instruction and the vocational agriculture IV class members were taught with conventional methods of group instruction for the allotted forty hours. The average difference in the gain in the tests scores at the end of this unit was a 1.17 more for the vocational agriculture IV class members who were taught by conventional methods of group instruction.

The second part of the study compared teaching methods in the area of Combine Maintenance and Adjustment. The two groups were reversed with the vocational agriculture IV class members participating in the individualized method of instruction and the vocational agriculture III class members involved in the conventional group method. The average difference in the gain in the test scores at the end of this unit was 1.16 higher for the vocational agriculture III class members who had conventional group instruction. The results of the study indicated that there was little difference between the two teaching methods used in this study.

71. WOODIN, Ralph J., Supply and Demand for Teachers of Vocational Agriculture in 1971. Staff Study, 1971. Department of Agricultural Education, The Ohio State University, Columbus.

Purpose. This is the seventh in a series of annual studies of supply and demand for teachers of vocational agriculture in the United States. The purpose of the series is to assist in a national recruitment effort.

Method. Information was provided by head state supervisors and teacher educators in all institutions preparing teachers of vocational agriculture. Questionnaires were mailed in July 1971; responses were received from every state and every institution. Information was requested regarding the number of graduates qualified and the number of teaching positions available.

Findings. The largest number qualified for teaching vocational agriculture in any of the seven years (1,743) was qualified in 1971. Of this number, 49.6 percent entered the teaching profession. A turnover of 9.7 percent also contributed to the teacher shortage.

A comparison of the number of teachers of vocational agriculture in the nation over the past seven years shows that the number has stabilized just short of 10,500 positions, although state supervisors predict a need for 11,977 teachers by 1975. These figures do not include 897 positions in technical institutes and community colleges.

Ninety-two percent of all positions were in general or comprehensive high schools; 3.1 percent were employed in area vocational schools. Nearly two-thirds of the positions involved teaching adults and young farmers as well as high school students. The number of teachers in multiple-teacher departments represented 38 percent of all teachers. Almost one-half of all teachers were offering specialized programs in such areas as agricultural business and supply, ornamental horticulture, and agricultural mechanics. Most of these programs were offered on a part-time basis rather than by full-time teachers. Only 747 teachers were employed full time in teaching in specialized programs. This is an increase of nearly 200 over the previous year.

Most teaching positions were filled by fully qualified persons holding a B. S. degree. Only about 350 teachers held emergency or temporary certificates.

72. WOODS, Harvey S., and STITT, Thomas R., Nepal Vocational Agriculture Teacher's Handbook. 1971. Southern Illinois University, Carbondale.

Abstract. This two-part handbook reviews present teaching materials used by vocational agriculture teachers of Nepal, discusses opportunities for improvment of curriculum materials and teaching methods, and provides additional materials for the improvement of academic, vocational, and professional competencies for all vocational agriculture teachers of Nepal. The first part of the handbook discusses: (1) the status of vocational agriculture in Nepal with respect to schools offering programs and the characteristics of an optimum teaching environment, (2) educational and family backgrounds of full-time vocational agriculture students, (3) conditions confronting graduates, (4) principles of teaching and learning, (5) effective teaching methods, (6) supervised farming, (7) future farmers of Nepal, (8) a course of study in vocational agriculture, and (9) young farmer training program. The second part of the handbook includes: (1) a discussion of lesson plan preparation, including definitions of methods, and components of a lesson plan, (2) a discussion of teaching methods, including lecture, group discussion, supervised study and discussion demonstrations, field trips, and others, and (3) several sample lesson plans.

73. WYATT, Windol Lee, Public Supported Instruction in Animal Science in Iowa. Dissertation, Ph.D., 1972. Library, Iowa State University, Ames.

Purpose. The purposes of this study were to determine (1) the content and emphasis in animal science instruction in Iowa provided by local vocational agriculture departments, local county cooperative

extension services, and the post-secondary area schools; (2) the effects of the geographic and economic areas on content; and (3) the relationship of selected instructor, school, and extension director characteristics, on content and emphasis.

Method. Each economic area in Iowa was sub-divided into three areas and from the total population a random sample of five schools and five counties were selected for each of the sub-divisions in each economic area. A total of 75 secondary schools, 75 counties, and all area schools that offered agricultural education programs were included in the study.

Findings. The mean total hours of instruction provided per school in animal science was 376.1, and ranged from a low of 244.6 in the eastern livestock economic area to a high of 466.7 hours in the northeast dairy economic area. Nearly 60 percent of the instruction in animal science provided at the secondary level was provided in Vo-Ag I, 15 percent in Vo-Ag II, 14 percent in Vo-Ag III, and 12 percent in Vo-Ag IV. About 18 percent of the instruction in animal science at the secondary level was related to swine, 15.0 percent to beef, 11.7 percent to animal nutrition, 11.0 percent to livestock records and record analysis, and 9.1 percent was related to dairy production. Teachers provided nearly one-half hour of non-class instruction for each hour of classroom instruction in the secondary school.

A mean of 9.4 hours of instruction per school was provided for adult and young farmer classes. The mean total hours of instruction provided through extension programs for youth was 29.2 hours, compared to 123.4 mean hours provided for adults. The five subject matter areas most strongly emphasized in the various types of programs provided by the area schools were: (1) swine, 2,177; (2) beef cattle, 1,861 hours; (3) animal nutrition, 1,499 hours; (4) dairy cattle, 1,388 hours; and (5) sheep, 1,385 hours.

74. YOUNG, Loyd L., Dealer Influence on Farmers' Decisions to Purchase Pesticides. Ph.D., 1972. Department of Agricultural Education, University of Nebraska, Lincoln.

Purpose. The purpose of this study was to analyze the influence agricultural pesticide dealers have on farmers' decisions to purchase and use agricultural pesticides. Specific objectives of the study were to: (1) ascertain the extent to which dealers influence farmers in their decision-making to use and purchase pesticides. (2) Examine the characteristics of the farmer and his farming operation in relation to the amount of influence the dealer had on the farmers' pesticide purchasing decisions. (3) Evaluate the reasons farmers selected their pesticide dealers. (4) Determine the factors that influenced farmers to use pesticides.

Method. Data were obtained by personal interviews using a prepared schedule of questions developed by the investigator. One hundred randomly selected farmers in the East Crop Reporting District of Nebraska, who produced corn, grain sorghum, or soybeans, were interviewed during the summer of 1971.

The dependent variable in this study were dealer influence, reason for dealer selection and the three Reason-For-Use Scores (Dealer, Educational, and Own Choice). The independent variables were age, education, years farmed, years farmed on this farm, distance to agricultural trading center, distance to major dealer, land ownership, freedom of purchase, number of available dealers, number dealers purchased from, and advance purchase of pesticide.

Findings. (1) Dealers had a low degree of influence on farmers' selection and use of pesticides. Only 5.3 percent of the farmers reported high influence exerted on them by the dealer to purchase and use a pesticide. (2) More tenant farmers were influenced by pesticide dealers in their decision to purchase and select their pesticides than part or full owner farmer operators. Full owners were influenced the least. (3) The price charged by a dealer for a pesticide was not an important factor in the farmer's selection of his pesticide dealer. (4) Farmers choose their pesticide dealer because of honest and fair dealing with the dealer in the past. (5) Farmers used pesticides because of their own choice influence reasons. The own choice influence reasons were much more important in the farmer's decision to use pesticides than dealer or educational influence reasons. Forty percent of the farmers interviewed had a high Own Choice Reason-For-Use Score while only 11.6 percent had a high Dealer Reason-For-Use score. Only 7.4 percent of the interviewed farmers had a high Education Reason-For-Use Score. (6) Farmers, who rated the dealer influence on their decision as little or no influence, identified their neighbors as the major influence on his decision to purchase and select a pesticide. (7) The single most important reason the interviewed farmers gave for using a pesticide was because they expected a possible increase in yield.

75. ZIKMUND, Dale G., A Pilot Study to Evaluate The Effect of Mediated Occupational Information on the Aspirations, Understandings, and Attitudes of Eighth Grade Students. Ed.D., 1971. Department of Agricultural Education, University of Nebraska, Lincoln.

Purpose. The purpose of this study was to compare the effectiveness of occupational information in the form of synchronized 35mm slides and audio tapes as contrasted to the traditional guidance program for eighth grade students. The major objective was to test the following null hypotheses: (1) There is no difference between the experimental and control groups on the basis of student's knowledge of occupations.

(2) There is no difference between the experimental and control groups on the basis of student's level of occupational aspiration. (3) There is no difference between the experimental and control groups on the basis of student's attitude toward work.

Method. The study involved 279 eighth grade students enrolled in Robin Mickle Junior High School, Lincoln, Nebraska. The students were randomly assigned to classes prior to the experiment. The experimental treatment was assigned to one class for each of the three guidance counselors cooperating with the investigator. The remaining two classes for each of the guidance counselors were assigned to the control group. The experimental treatment group consisted of 90 students, and the control group was composed of 189 students. The study was a quasi-experimental non-equivalent control group design. The experiment was conducted during the second semester of the 1970-71 school year.

The students in the experimental groups were shown 35mm slides and audio tapes on 100 different occupations. The students in the control groups received occupational information via various media in their regular group guidance class.

The null hypotheses regarding knowledge and aspiration level were tested using the analysis of variance with unweighted means to accomodate the unequal class sizes. The analysis of covariance was used to test the null hypothesis for attitude toward work. The pre-test scores on "Opinions about Work" were used as the covariate. Comparisons were made to determine the relationships between the experimental and control groups regarding student personal data. The opinions of students were assessed on a subjective evaluation instrument regarding the experimental program.

Findings. Based on the data presented in the study, the results showed no significant differences for two of the dependent variables. There were no significant differences between the experimental and control groups on the basis of the "Test on Knowledge of Occupations" and the "Occupational Aspiration Scale." Thus, the null hypotheses could not be rejected.

The dependent variable used to test the null hypothesis regarding student's attitude toward work was the post-test scores on "Opinions about Work." The F ratios for the effect of mediated instruction and the effect of the individual teacher did not exceed the established critical values. However, the F ratio for the effect of the individual teacher by treatment was significant at the .05 level. Thus, the data indicate that a combination of the effect of mediated instruction and the individual teacher had more influence on student's attitude toward work than either the effect of mediated instruction or the individual teacher effect alone.

At the conclusion of the study students in the experimental treatment group were afforded the opportunity to provide feedback on a subjective evaluation instrument. The results of the evaluation indicated that the students generally had a favorable attitude toward the experimental program although a majority of the students did indicate that they would prefer to learn about jobs by talking directly to someone who had a job in which they were interested or by going on a school sponsored field trip to visit a business.

The evidence from this study suggests that occupational information provided solely by slides and tapes was as effective as the occupational phase of the group guidance program using a wide variety of audio-visual materials, class discussion, and a required paper on a selected career.

76. ZURBRICK, Phillip R., Effectiveness of a Teacher Reference Utilizing an Inductive Mode and Principles Approach with High School Vocational Agriculture Students. Dissertation, Ph.D., 1972. Library, The Ohio State University, Columbus.

Purpose. To evaluate the effectiveness of a teacher reference on marketing principles that utilized an inductive mode of teaching and principles approach to subject matter organization with high school vocational agriculture students. The effectiveness of the reference was evaluated in terms of student understanding, instructional time required to teach the units, and finally, in terms of teacher preparation time. Specific objectives were to determine if the use of the reference would: 1) increase student understanding of marketing principles, 2) decrease teacher preparation time and 3) increase instructional time. Also included in the study was the investigation of teacher related and student related independent variables thought to influence the dependent measures.

Method. The effectiveness of the reference was determined by using an experimental pretest-posttest control group design. The two treatment groups consisted of twelve naturally assembled vocational agricultural classrooms which were randomly assigned to two groups and each group randomly assigned to the treatments. The classes served as experimental units.

The treatment received by the classes in the experimental group consisted of instruction on marketing principles based upon the material contained in the teacher reference: Instructional Units on Marketing Principles. The classes in the control group received instruction on marketing principles directed toward the same student objectives, but without the assistance of any special instructional material. Instruction in both treatment groups was provided by the regular classroom teacher. The two treatment groups were compared using a t test to determine if they differed significantly on any of the assigned independent variables. A correlation coefficient was calculated between each of the independent variables and each dependent variable to

determine the relationship between factors. Finally, an analysis of covariance was utilized with pretest scores as the covariate to determine the statistical significance of posttest scores for the two treatment groups.

Findings. The most significant finding was the effect of the experimental treatment on student understanding of marketing principles. The F value resulting from the analysis of covariance with the pretest scores as the covariate was significant at the .05 level of significance. It was, therefore, concluded that the use of the teacher reference did significantly increase student understanding of marketing principles.

The difference between the two treatment groups on preparation and instructional time was not statistically significant even though the experimental group spent less time in preparation and more time on instruction. None of the relationships between teacher variables and the dependent variables proved to be significant when calculated for all teachers participating in the study. The only correlational value that was statistically significant was between the teacher's previous experience in teaching marketing principles and student achievement for the teachers in the experimental group. Statistically significant relationships between student variables and dependent variables proved to be equally elusive. Again none of the relationships were statistically significant when calculated for both treatment groups. Individually there was a significant relationship between scholastic aptitude as measured by grade point average and posttest scores for the students in the control group classrooms.

It was concluded that the teacher reference on marketing principles, Instructional Units on Agricultural Marketing Principles, was effective in significantly enhancing student understanding of marketing principles. The use of the reference tended to reduce teacher preparation time and to increase instructional time.

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